



INDIAN MINES ACT, 1923

ANNUAL REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA

FOR THE YEAR ENDING

31st DECEMBER 1929



**CALCUTTA: GOVERNMENT OF INDIA
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FROM

R. R. SIMPSON, Esq., C.I.E., M.Sc.,
CHIEF INSPECTOR OF MINES IN INDIA,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF INDUSTRIES AND LABOUR.

Dated Dhanbad, the 31st May 1930.

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1929.

INTRODUCTION.

The Indian Mines Act, 1923, applies to British India only and not to the Indian States. For the complete figures of production of all minerals raised from excavations of all depths in British India and the Indian States reference may be made to the statements of the "Mineral Production of India" published annually in the Records of the Geological Survey of India, and to the "Quinquennial Review of the Mineral Production of India" published every five years by the same Department. Detailed information of the mineral industries in Mysore—where the Kolar goldfield is situated—and Hyderabad (Nizam's Dominions) is given in the annual reports of the Chief Inspectors of Mines in those States.

Section I.—Persons employed.

During the year 1929 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 269,701, as compared with 267,671 in the previous year. The increase was 2,030 persons, or 0.76 per cent. Of these persons 116,945 worked underground, 82,963 in open workings and 69,793 on the surface. The distribution in respect of sex was as follows:—

	Males.		Females.	
	1929.	1928.	1929.	1928.
Underground . . .	92,856	86,155	24,089	31,785
In open workings . . .	54,235	51,005	28,728	29,453
Surface . . .	51,054	52,430	17,839	17,841
	<u>199,045</u>	<u>189,590</u>	<u>70,656</u>	<u>79,081</u>

The most remarkable feature of this table is the reduction of the number of women employed underground from 31,785 in 1928 to 24,089 in 1929. This reduction by 24 per cent. was to some small extent due to the fact that the employment of women underground in mines

and in 1929 still higher figures were reached. The death rates in the Asansol and Jharra Mining Settlements rose to 23 and 19·57 per thousand, respectively, as compared with 16·62 and 16·73 per thousand, respectively, in the year 1927.

At most of the mines for other minerals than coal in the province of Bihar and Orissa there was an abundant supply of labour. Wages remained at their previous level and there were no strikes. The general health of the labourers was good.

At the collieries in Upper Assam owned by the Assam Railways and Trading Company, Limited, the total number of workers resident at the mines was 4,177. Although 865 persons were repatriated only 433 persons were recruited. In the neighbourhood of the coal mines large areas of land have been reclaimed from the primeval jungle by labourers originally recruited by the Company. A considerable proportion of the labour is now drawn from the large villages occupied by these settlers. They prefer to do the work of coal-cutters and believe in a short shift, few of them working underground more than five hours per day. Wages remained the same and there were no strikes or epidemics. The labour force is mainly drawn from Chota Nagpur, but in one of the Company's quarries there are Nagas, Nepalese, Tibetans, Baluchis and Chinese. The workmen are all very keen on foot ball, and a colliery league has been organised, the teams including representatives of the underground workers, surface workers and office staff. A shield for competition has been presented by the Colliery Superintendent, and the Company gave silver medals to the winning team. The matches are very popular and great enthusiasm is shown.

In the Central Provinces labour was plentiful and there was a tendency for wages to be lower than in 1928. At certain of the manganese and coal mines there were epidemics of influenza and Cholera, but the general health of the workers was better than in the previous year. Adequate medical relief was provided by the larger concerns. As mentioned in last year's annual report the premier manganese mining company in India has established a well equipped infant welfare centre at their Kandri mine. Attempts have been made to popularise the services that can be given in the institution, and as a result a slightly better attendance at the hospital was recorded during the year. It has, however, been the experience that the mine worker does not avail herself of the benefits of the institution as readily as might be desired. At the Balaghat manganese mine the prohibition of the employment of women underground created a slight disturbance, but for a short time only. At this mine there was a certain increase in diseases of the respiratory systems amongst the underground workers, but there was no evidence that this was due to silicosis. The locality is malarious and those who suffer from the disease are liable to chill on encountering a change of temperature. At the mines worked by the leading companies in the Central Provinces water supply, sanitation and housing accommodation are being steadily improved, and increasing attention is being paid to the education of the children of the miners.

From the United Provinces the Deputy Commissioner, Banda district, reports that "there was a partial strike in December at the Bharatkup stone mine. The labourers stood out for return fares to their homes, even when they had been engaged by the contractor on the spot. The

contractor made this concession to them and the strike ended". The mine is owned by the Public Works Department. The Collector, Hamirpur district, reports that the rates of wages paid to the unskilled labourers in the soapstone mines ranged from annas two to four per day.

In respect of labourers in the Jhelum district, Punjab, the Deputy Commissioner reports that "there was no epidemic disease and the general health of the miners has been good throughout the year. * * * * * The hereditary miners of Khewra gave a cordial reception to the members of the Royal Commission on Labour and entertained them at a tea party. * * * * *. With the introduction of machinery and the latest methods of excavation in the salt mines at Khewra there is still a certain amount of unemployment among hereditary miners, and the matter is receiving the attention of the Salt Department * * * * *. There is a District Board school both at Khewra and Dandot but the miners do not take any appreciable interest in the education of their children, more especially the girls. The Salt Department might well set apart annually in consultation with the Rural Community Council, Jhelum, a small sum of money for the uplift of the permanent labour working in the salt mines and particularly for the education of the new generation on right lines. Compulsory free education for boys and girls below the age of ten should be introduced and children of these hereditary miners must be taught clean habits, the evils of wasting their hard-earned money on jewellery and ceremonies, the advantage of vaccination and of quinine in times of malaria and the many other simple things which will mean vastly improved conditions of life. It is essential that all such useful things should be imprinted on the minds of the children of the miners, and the girls who will one day be wives and mothers must be taught the simple domestic arts and the ways in which they can keep their homes happy and healthy".

In the Nellore district of Madras there was a plentiful supply of cheap labour at the mica mines. The anti-hook-worm treatment rendered by the specialist deputed for the purpose is said to have improved the condition of the labouring population generally.

In the Northern Shan States, Burma, at the lead-silver, iron and limestone mines worked by the Burma Corporation limited the general improvement in labour conditions was maintained. In all departments of the Company's activities 16,457 persons were employed. There was no alteration in the standard rates of wages, and no outbreak of epidemic disease at the mine. The Superintendent, Northern Shan States, reports as follows:—"The Burma Corporation employs a large medical staff including two English doctors and several European nurses and the sanitary organisation is admirable; it is now years since an epidemic has obtained a foothold. Malaria continues to levy a heavy toll (though not as heavy as some years ago) but steps are now being taken to engage an anti-malaria staff headed by an English specialist. In addition to those provided for Europeans, Asiatic employees are provided with four tennis courts, two badminton courts, cricket, football and hockey grounds".

In the Thabon district the majority of the labourers employed at the stone mines were Indians recruited locally. At the Public Works Department quarries at Mokpalin, however, jail labourers were em-

ployed to a considerable extent. The stone quarries at Myogyi-Lawkotaya and Shwegyin in the Toungoo district were worked entirely by prisoners.

In the Tavoy and Mergui districts there was a shortage of labour, but it was not acute. There were no epidemics or strikes. The Deputy Commissioner reports that "there was a good deal of unpleasantness at some of the mines owned by the Consolidated Tin Mines of Burma Limited. Large number of Yunnanese coolies, dissatisfied with the conditions and complaining that they had been recruited under false pretences, threatened to do violence to the contractors under whom they worked, and trouble was only averted by the company sending them all back to Lashio (rail-head in the Northern Shan States) at the company's expense".

Figures showing the average output of coal per person employed are given below:—

	Tons of coal per person employed.			
	Underground and in open workings		Above and below ground.	
	1929.	1924-28.	1929.	1924-28.
British India	193	180	135	120
Pengal and Bihar	197	186	138	123
Assam	105	115	78	74
Baluchistan	69	57	52	36
Central Provinces	164	131	115	87
Punjab	101	87	58	51

There was once more a small improvement in the average, and, as in the previous years, the improvement may be ascribed to the greater use of coal-cutting machinery. In comparing the figures in the tables with similar figures in other countries it should be remembered that both men and women are employed in Indian mines. In 1928 the output of coal per person employed above and below ground in the United Kingdom was 253 tons. In 1927 comparative figures in certain other countries were:—Japan, 136 tons; Transvaal, 543 tons; United States of America, 706 tons.

In the table on page 6 figures are given of the average daily wages paid in December in each important mining field in India. In the coal-fields the rates were practically the same as in the previous year. There was a slight fall in the wages of lead miners and a remarkable reduction of 29 per cent. in the wages of tin miners in Burma. The wages of mine miners both in Madras and in Bihar and Orissa were slightly less, and there was the same tendency at stone and limestone mines in the Central Provinces and the United Provinces.

Average daily earnings in rupees, annas and pice during the month of December 1929 in each important mineral field in British India.

Mineral Field.	Underground						Open workings						Surface.	
	Overmen and Sifters	Miners	Loaders	Skilled Labour	Unskilled Labour	Females	Overmen and Sifters	Miners	Loaders	Unskilled Labour	Unskilled Females	Clerical and Supervisors	Skilled Labour	Unskilled Labour
Jamshedpur Coalfield (Jharkhand and Orissa)	1 5 0	12 0	11 0	12 0	9 0	8 0	1 3 0	13 0	11 0	7 10 3	0 10 0	1 6 0	12 3	0 9 0
Patna Coalfield (Bihar)	1 3 0	13 0	10 3	12 3	9 0	7 0	0 16 0	9 0	7 0	0 11 0	0 8 0	2 3 0	11 0	0 8 0
Gumla Coalfield (Bihar and Orissa)	1 7 3	13 0	12 0	14 3	8 0	7 0	0 14 3	11 0	6 3	0 9 0	0 6 0	1 6 3	14 0	0 8 0
Asa Coalfield	1 7 6	15 6	13 6	12 3	14 6	1 3 0	1 3 0	1 0 1	0 3	1 3 3	15 9	1 8 0	15 9	12 0
Pardih Coalfield	0 15 0	14 3	13 6	15 0	8 3	...	...	...	...	...	...	0 15 0	14 0	11 3
Paikriah Coalfield	1 7 3	12 0	11 0	11 4	...	...	...	...	...	...	...	0 15 0	11 0	7 3 0
Purbi Coalfield (Central Provinces, Bihar and Orissa)	1 4 3	12 0	10 0	10 6	9 0	7 0	...	...	...	...	...	1 4 0	10 0	10 3
Maharaja	0 9 0	7 3	...	0 9 0	8 0	0 4 0	0 11 0	7 0	...	0 7 0	0 4 0	3 0 0	0 0	0 3 0
Central Provinces Mangalore	0 8 0	7 0	...	0 8 0	8 0	0 5 0	0 8 0	5 3	...	0 5 0	0 6 0	0 12 3	7 3	0 3 0
Moss Mangalore	1 8 3	10 3	...	1 0 3	7 0	...	1 0 3	8 9	...	0 16 3	0 9 0	1 7 0	1 0 0	0 8 0
Central Provinces Limestone	...	...	...	...	...	...	0 13 0	6 3	...	0 6 3	0 7 0	1 5 0	10 0	1 0 0
Bihar and Orissa Iron	...	...	...	...	...	...	0 13 0	5 9	...	0 14 0	0 8 0	1 7 0	7 0	10 0
Narora Lead	10 7 0	12 0	...	11 9	1 8 6	...	1 0 0	10 3	...	0 13 0	0 9 0	2 0 0	1 4 0	0 9 0
Narora Tin	8 3 1	9 0	...	1 4 8	1 8 0	1 0 0	3 9 0	1 6 3	...	1 11 4	1 5 0	3 3 0	2 9 0	1 8 0
Punjab Salt	1 0 0	1 0 3	...	1 1 3	1 10 9	0 9 0	2 7 3	2 0	...	...	...	0 12 0	1 3 0	12 3
Punjab and Orissa China Clay	0 10 3	1 7 6	...	...	0 8 3	0 4 0	0 10 0	6 0	...	0 10 0	0 6 0	1 1 0	0 9 3	0 5 0
Punjab Salt	0 8 0	7 0	...	0 8 0	8 0	...	0 12 0	7 9	...	0 7 3	0 4 0	...	...	0 7 3
United Provinces Glass	...	...	...	...	...	...	0 10 3	10 0	...	0 5 0	0 5 0	0 15 0	0 8 0	10 0

*The General Manager of the salt mines advised that there was no such marked fall in wages as the figures indicate. The figures are for December, and in that month the output of salt is severely restricted. As the strength of the labour force was not reduced, individual wages were lower.

With effect from the first day of July 1929 the employment of women underground in mines other than coal mines in Bengal, Bihar and Orissa and the Central Provinces, and salt mines in the Punjab, was prohibited. In the coal mines mentioned above women continued to be employed in the underground workings after 1st July 1929, but their total number was restricted to 29 per cent. of the total number of persons, both men and women, employed underground in the mine concerned. This permitted percentage will be reduced by 3 every year till finally extinguished in July 1939. Similarly the number of women who may be employed underground in the salt mines will gradually decrease from 40 per cent. in 1929-30 to nil in July 1939. A copy of the regulations for prohibiting the employment of women underground in mines will be found in Appendix IV, Statement No. 3. As stated on an earlier page the immediate effect of these regulations has been a reduction of 24 per cent. in the number of women employed underground. In spite of this large reduction there has so far been very little complaint of inconvenience to mineowners or loss of employment. At a certain mine metal checks have been issued to the women, and no woman is allowed to go underground who is not in possession of a check. The attendance of the women is being carefully recorded, and the annual quota for exclusion will be drawn from those who have been least regular in attendance.

Although the provisions of the Indian Workmen's Compensation Act, 1923, are gradually becoming better known yet there is reason to believe that at certain mines obligations under the Act are evaded. Contractors under the Public Works Department are perhaps the worst offenders, and it is desirable that the departmental officer concerned should in every case of accident be required to satisfy himself that just claims for compensation are being met. In this matter the Mines Department does all that it can to assist injured workers and dependants, and has closely co-operated with the Commissioners for Workmen's Compensation. It is, however, difficult to get into touch with dependants in out of the way places. It would seem desirable that machinery should be devised whereby the district officer should be furnished with information as to the steps taken to compensate persons injured and the dependants of persons killed by accidents in mines.

In the Annual Report for 1927 it was stated that in the Jharia coalfield area with a population of 376,000 (including 138,000 rural inhabitants) there were 99 schools, of which 16 were colliery schools with an aggregate number of 617 pupils. There has since been no increase in the number of colliery schools and the number of pupils in such schools is practically the same. The total number of the schools has fallen from 99 to 88. It is regrettable that although children were excluded from the mines as long ago as in 1924 there has been as yet no concerted movement for bringing into force the provisions of the Bihar and Orissa Primary Education Act, 1919, in the Jharia coalfield.

Section II.—Output of Minerals.

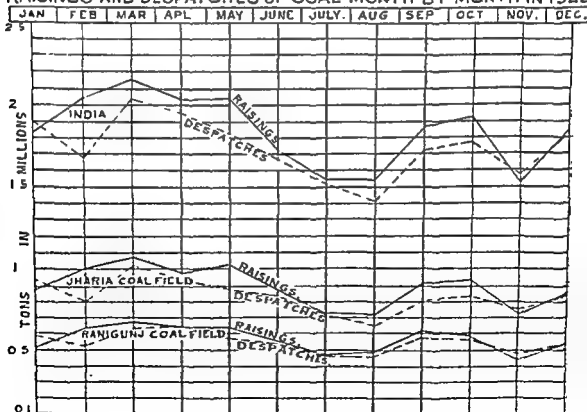
COAL.

The statement given below shows the output of coal in the various provinces in British India during the years 1928 and 1929:—

	Output in tons.	
	1929.	1928.
Assam	321,545	297,501
Baluchistan	10,984	11,217
Bengal	5,965,101	5,639,993
Bihar and Orissa	15,035,074	14,788,580
Central Provinces	882,331	732,353
Punjab	43,136	46,152
	<u>22,308,174</u>	<u>21,515,796</u>

The total output in 1929 was 22,308,174 tons of a declared value of Rs. 8,45,54,438. The increase in the output was 792,378 tons or 3.68 per cent. This production was a record, being 548,447 tons in excess of the previous maximum attained in 1919. The opening stocks in 1929 were 1,592,841 tons and the closing stocks 844,240 tons, which is 781,478 tons less than in the previous year, and nearly two million tons less than the closing stocks at the end of 1925. In the chart which appears below the raisings and despatches of coal are shown month by month.

RAISINGS AND DESPATCHES OF COAL MONTH BY MONTH IN 1929



The maximum output was obtained in March and, except for a stationary period in April and May, was followed by a continuous fall to the low level maintained in the period July-August. This was followed by a large increase in September and a further but slower increase in October. In November the output fell to the minimum for the year, and thereafter rose to the usual average quantity obtained in the month of December. In January and November the despatches were in excess of raisings. The despatches were lowest in the month of August.

The total despatches of coal were 20,612,567 tons, and 1,239,372 tons, or 5.56 per cent. of the raisings, were consumed on the collieries. The proportion of coal used on the collieries has steadily decreased from a maximum of 14.31 per cent. in 1922 to 5.56 per cent. in 1929. The present figure is the lowest recorded and 0.32 per cent. less than in the previous year. Considering the increasing extent to which labour saving appliances are being used the figure is highly creditable to the engineers employed in the coalfields.

The quantity of coal used for coking at the collieries was 1,204,836 tons, and 757,727 tons of soft coke and 72,453 tons of hard coke were made. The quantity of soft coke manufactured at the collieries for domestic consumption increased by 10 per cent., as compared with 13.1 per cent. in the previous year and 18 per cent. in the year 1927. It may be hoped that the efforts of the Indian Soft Coke Cess Committee will be successful in maintaining the expansion of this valuable market for second class coal. The quantity of hard coke made at the collieries is small. Most of the hard coke is now made at coke making plants which do not come under the Mines Act, and 1,741,961 tons of coal were despatched to coke-making plants of this kind in 1929. This is an increase of 57 per cent. on the figure recorded in the previous year when there was a prolonged strike of iron and steel workers at Jamshedpur. Analyses of the figures relating to the output of coal and the manufacture of coke will be found in Appendix I, Table No. 3.

The output in Bihar and Orissa increased by 296,494 tons, and in Bengal the increase was 325,111 tons. In the Central Provinces the output increased from 732,353 tons to 882,331 tons. There was an increase of output in Assam and small decreases in Baluchistan and the Punjab where the importance of coal mining is gradually declining. Figures of output for the principal coalfields are as follows:—

Coalfield	1929	1928.	Percentage of increase + or decrease —
Jharia	10,785,743	10,665,479	+ 1.13
Raniganj	6,823,053	6,460,490	+ 5.60
Bokaro	2,118,703	2,026,791	+ 4.53
Giridih	771,165	804,118	- 4.10
Karanpura	467,127	300,491	- 19.62
Pench Valley	680,270		-22.24
Assam	321,545		+ 6

The output of the Jharia coalfield was again of that of the previous year. There were Bokaro and Assam fields and large increases in

" " " " the " "

Valley coalfields. There was again a small decline in the output of the Giridih coalfield.

The indications of an improvement in the market for Indian coal, faintly apparent at the end of 1928, became more evident in the early months of 1929. The factors responsible for the improvement were increased demands for export and for use on the Indian railways, and an understanding between certain of the leading producers that coal should not be sold at uneconomic prices. The tone of market at the end of 1929 was accordingly somewhat more hopeful than for some years past. There was an occasional scarcity of wagons, particularly early in the year when wheat was being transported from Calcutta to meet the shortage caused by failure of the wheat crop in North Western India. The shipments of coal from the port of Calcutta were 2,600,016 tons, and the exports 726,610 tons, as compared with 626,343 tons in 1928. The increase in the exports was mainly due to an expansion of the exports to Hongkong. The Indian Coal Grading Board continued to give satisfaction in the work of grading coal and granting certificates of the quality and condition of coal intended for export.

In the Central Provinces there was a steady and increasing demand for coal and outputs were correspondingly higher.

In Assam the output was restricted until the end of March, but this was followed by improvement and at the end of the year prospects were much brighter.

The number of collieries using electric energy was 114, and the aggregate horse power employed at collieries increased from 64,478 to 70,033, i.e., by 8.6 per cent. During the year electric plant was installed and brought into operation in eight additional mines; one mine using electricity was closed down, and electric plant was withdrawn from two mines.

The number of coal-cutting machines in use increased from 146 to 173; of these 160 were driven by electricity and 13 by compressed air. 78 machines were at work in the Jharia coalfield, 91 in the Raniganj coalfield and 4 in the Central Provinces. Coal-cutting machines were in use in 52 coal mines, and the total area undercut by the machines was 9,769,640 sq. feet, as compared with 8,372,689 sq. feet undercut in the previous year. The increase in the use of machines for mining coal in the Raniganj coalfield is remarkable.

Attention is invited to a new type of cable known as "Pliable armoured cable". This cable has proved very suitable for use with portable apparatus such as conveyors and small pumps, etc., that are moved to new positions at intervals. The cables have the flexibility of the cab tyre sheathed trailing cable, and their armouring can be securely attached to apparatus supplied by them, thus obtaining the full security pertaining to the elimination of unarmoured trailing cables.

Electricity was used at 23 metalliferous mines, and the aggregate horse power installed was 9,013, an increase of 33 per cent.

Statistics of the electrical plant in use at mines in the various provinces of British India and in certain mine fields are contained in Appendix I, Tables 7, 8 and 9.

During the year 2,354,545 lb. of gunpowder, 248,587 lb of high explosives, and 141,802 lb. of "permitted" explosives were used at

coal mines under the Act. These figures compare with 2,186,269 lb. of gunpowder, 250,590 lb. of high explosives, and 108,467 lb. of "permitted" explosives used in 1928. A statement of the kind and quantity of explosives used during the year in the different kinds of mines under the Act is given in Appendix I, Table 12.

In Appendix I, Table 11, particulars are given of the number of mechanical ventilators in use in coal mines under the Act. In 1929, 74 mechanical ventilators were in use, the number being the same as in the previous year.

In Appendix I, Table 11, particulars are given of the number of safety lamps in use in coal mines under the Act. 20,239 safety lamps were in use in 1929, as compared with 17,798 in 1928.

IRON ORE.

The production of iron ore was 1,436,385 tons, valued at Rs 33,00,846, as compared with 1,206,754 tons in 1928, the increase being 19.03 per cent.

MANGANESE ORE.

There was an increase of nearly 5 per cent. in the output of manganese, the figures of production being 750,908 tons, valued at Rs 89,93,832, as compared with 716,626 tons in 1928. There was a considerable drop in price, and the drop is said to have been due chiefly to the price-cutting policy of the Russian Soviet Government and to some extent to the expectation of cheap high grade ore from South Africa being placed upon the market. Another factor is said to have been the amount of Governmental assistance given to the Brazilian mining industry by reductions in railway freight.

The f.o.b. price for first grade ore was 11.91d. per unit, whilst the average for all grades was 11.43d. These prices, however, were not truly representative as they included benefits obtained by long contracts and by participation in smelting profits in England. Sea freights to Europe were about 18s. per ton at the beginning of the year, but towards the end of the year they fell to about 16s. 6d. per ton.

A reduction of railway freight by Rs. 1-13-6 per ton was obtained on all ore despatched between 1st August 1929 and 1st August 1930 in excess of the average tonnage of ferro making grade ore railed during the previous three years. Representations for an extension of this concession to the period 1930-31 have been made.

LEAD-SILVER ORE.

The output of lead-silver ore from the Bawdwin mine in the Northern Shan States, Burma, was 464,691 tons, as compared with 443,654 tons in 1928. There was, therefore, an increase of 4.74 per cent. 79,033 tons of refined lead, 1,200 tons of antimonial lead, 7,230,517 ounces of refined silver, 11,303 tons of copper matte and 3,065 tons of nickel speiss were produced. The experimental zinc plant at the Namtu mill produced 58,435 tons of zinc concentrates.

The average values of metals extracted were as follows:—Refined lead, Rs. 312-1-0 per ton; antimonial lead, Rs. 280-14-8 per ton; and refined silver, Rs. 1-7-7 per troy ounce.

The quantities of materials used for the purpose of fluxes were as follows:—iron ore 45,946 tons; limestone 41,552 tons; quartz rock 1,019 tons; and non pyrites 3,066 tons.

The ore-dressing plant was extended and has now a capacity of 45,000 tons per month, representing an increased capacity of 50 per cent. Modern flotation machines have replaced the less efficient machines hitherto in use, and this has enabled an increased recovery of both lead and zinc to be made.

The Maimon shaft has been sunk to the tenth level, and has now a total depth of 1,213 feet. Practically the whole of the fire area has been recovered. Parts of the area are still very warm, but they are gradually cooling down. As the extraction of the ore body proceeds the effect on the surface becomes more pronounced. Up to date the subsidence has been not less than 10 feet, but has been so gradual that there has been no difficulty in building up the road and railway. The cracks in the bed of the river silt up and little water finds its way into the mine. The magnitude of the mining operations in progress is shown by the fact that the annual consumption of mine timber was 18,000 tons.

For the treatment of ore from Bawsaing mine in the Southern Shan States an ore dressing plant has been ordered.

GOLD.

The output of gold in 1929 was 30 ounces, all of which was obtained from the Kundarkocha mine in the Sughblum district.

TIN AND WOLFRAM ORES.

The output of tin ore was 3,384 tons, valued at Rs. 53,64,516, as compared with 2,777 tons in 1928. 1,061 tons of wolfram ore, valued at Rs. 11,97,230, were produced, as compared with 622 tons in 1928.

The remarkable increase in the output of wolfram was due to the market price of that mineral having returned to a remunerative level. Work has been resumed at many mines producing ores mainly composed of wolfram, whereas in recent years the price of the mineral has only enabled it to be mined in conjunction with tin ore. On the other hand tin production has been considerably affected by the fall in the price of that metal, and towards the close of the year the production was being curtailed and prospecting work was being suspended. Two new dredges commenced work in the Tavoy district and one of them is said to be the largest tin dredge in the world. There has been a considerable increase in the use of hydro-electric power and hydraulic equipment. The need for further improvement in means of communication is stressed by the mining community.

CHROMITE ORP.

The production of chromite ore was 21,054 tons, valued at Rs. 3,35,201, as compared with 17,167 tons in 1928.

COPPER ORE.

The output of copper ore was 76,831 tons, valued at Rs. 4,80,194, as compared with 18,055 tons in 1928. The whole of the production

came from the Mosaboni mine in the Singbhum district. The production of refined copper ingots and slabs was 1,635 tons, all of which were sold in India at an average price of Rs. 1,200 per ton. A rolling mill for sheet copper and yellow metal is under construction.

As mentioned in an earlier paragraph 11,303 tons of copper matte were produced in the smelting of lead-silver ore in Burma.

ZINC ORE.

From the composite ore mined at the Baldwin mine in the Northern Shan States, Burma, 58,435 tons of zinc concentrates were produced for shipment. The production in 1928 was 64,122 tons.

GEMS.

The production of the Burma ruby mines coming under the Mines Act was as follows —

	Catats.	Value, Rs.
Rubies	37,640	1,70,426
Sapphires	2,530	10,992
Spinels	3,480	342
	<hr/> 43,650	<hr/> 1,81,760

The actual mining operations of the Burma Ruby Mines Limited were confined to Kathe mine. Tributors continued to work the Company's old mining areas in Mogok and Kathe, but on a restricted scale.

The gem market was very good for the greater part of the year, but the slump on the New York Stock exchange had an adverse effect towards the end of the year.

The Government revenue from royalties paid by the native licensees was Rs. 2,88,760, as compared with Rs. 2,41,660 in 1928. The finding of several large stones of high value, notably a sapphire sold for one and three-quarter lakhs in September, encouraged the native licensees.

MICA.

The quantity of mica consigned was 49,437 cwt., valued at Rs. 26,51,293, as compared with 44,629 cwt. in 1928. The increase was nearly 11 per cent. The output of dressed mica in 1929 was 53,065 cwt., as compared with 51,390 cwt. in 1928.

The demand for mica was more active and sustained than in the previous year, and, as a result there was an improvement in price. The question of legislation to prevent the theft and illicit working of mica was revived and a revised Bill was introduced in the Bihar and Orissa Legislative Council during the year and has since been passed as the Bihar and Orissa Mica Act, 1930 (I of 1930).

In the Hazaribagh mica field in Chota Nagpur there is an increasing tendency to re-open old mines which have been closed down for a considerable number of years, rather than to exploit new surface outcrops. Few of the mines have been worked to a depth greater than 100 feet and it is often found that the productive vein has not been exhausted by the previous workers.

From the Nellore mines in the Madras Presidency there was a good demand for best stained quality mica and, in a lesser degree, for hard spotted material. The quantity of spotted mica produced is increasing yearly, but competition is keen. From Rhodesia, where mica mining is in its infancy and the mines are yet shallow, large quantities of spotted mica are being produced at prices with which the Nellore mines are barely able to compete. The old haphazard method of quarrying the vein down to a limit of extraction and then indiscriminately driving tunnels along the richest stringers or shoots is still the common practice in Nellore. At no mine has any proper system of stoping been introduced. When it is considered that about 90 per cent. of the mined material is spoil which under the present methods has to be hauled out of the mine and dumped - " " " " " " " " " " ear
to have great mechanical " " " " " " " " " " of
not even by the owners whose mines have reached depths exceeding 150 feet, and at the mines where haulages are in operation their use is not fully understood and they are not utilised to their greatest advantage. It is probable that more haulages will now be installed to meet the difficulties arising from the prohibition of the employment of women in underground workings. Formerly a large number of women were employed in carrying spoil out of the mines.

ROCK-SALT.

The production of rock-salt was 148,496 tons, as compared with 145,543 tons in the previous year.

LIVESTONE.

The reported production of limestone was 1,313,647 tons, valued at Rs. 18,74,081, as compared with 1,404,578 tons in 1928.

STONE.

Returns were submitted by the owners of one hundred and seventy-six stone mines, and the figures of production were as follows:—1,489,768 tons of igneous rock, 847,568 tons of unspecified rock, 78,069 tons of laterite, 78,413 tons of sandstone, 6,994 tons of gravel and 1,135,731 tons of murum. The total production was 3,636,546 tons, as compared with 3,155,379 tons in 1928. This increase should not be considered a sign of increased industrial activity. It arises from the fact that returns were received from a larger number of mines.

CLAYS.

From the twenty-three clay mines from which figures were obtained 73,605 tons of fire-clay, 11,728 tons of china clay and 124,531 tons of ordinary clay were produced.

OTHER MINERALS.

53,369 tons of slate, valued at Rs. 2,56,549; 22,134 tons of magnesite, valued at Rs. 1,08,722; 9,044 tons of bauxite, valued at Rs. 72,352; 6,086 tons of gypsum, valued at Rs. 13,512; 3,616 tons of kyanite, valued at Rs. 36,193; 2,319 tons of steatite, valued at Rs. 51,958; 1,768 cwts. of asbestos, valued at Rs. 3,160. 1,185 tons of ochre, valued at Rs. 6,745; and 802 tons of barytes, valued at Rs. 5,151 were produced. Small quantities of graphite, apatite, corundum, bismuth and fuller's earth were also produced.

Section III.—Accidents.

During the year 1929 at mines regulated by the Indian Mines Act, 1923 there were 212 fatal accidents, which is 9 less than in 1928 and the same as the average number in the preceding five years.

These accidents involved the loss of 266 lives, which is 7 more than in 1928. Of the persons killed 215 were males and 51 were females. In one case ten lives, in one case six lives, in two cases five lives, in three cases four lives, in four cases three lives, and in fifteen cases two lives were lost.

In addition to the fatal accidents there were 651 serious accidents involving injuries to 672 persons, as compared with 654 serious accidents involving injuries to 683 persons in the previous year. No record is maintained of minor accidents. The serious accidents reported are those in which an injury has been sustained which involves, or in all probability will involve, the permanent loss of the use of, or permanent injury to, any limb, or the permanent loss of or injury to the sight or hearing, or the fracture of any limb or the enforced absence of the injured person from work for a period exceeding twenty days.

In not a few cases of accident although the injuries sustained are not severe yet death results from tetanus. At a number of mines the giving of anti-tetanus injections is becoming a recognised part of surgical treatment.

The proportions of accidents which occurred to males and females underground, in open workings and on surface during the year were as follows:—

	No. of fatal accidents	No. of males killed	No. of females killed	Death rate per 1,000 persons employed		No. of serious accidents	No. of males injured	No. of females injured	Serious injury rate per 1,000 persons employed	
				Males	Females				Males	Females
Underground	153	168	40	1.79	1.66	391	368	23	3.94	1.59
Open workings	30	27	4	0.50	0.14	82	63	23	1.16	0.87
Surface	29	22	7	0.42	0.39	178	159	21	3.06	1.18

In the Hazaribagh mica field in Chota Nagpur there is an increasing tendency to re-open old mines which have been closed down for a considerable number of years, rather than to exploit new surface outcrops. Few of the mines have been worked to a depth greater than 100 feet and it is often found that the productive vein has not been exhausted by the previous workers.

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instead of using the bye-pass provided were fatally crushed under the descending cage.

Two persons lost their lives by suffocation by gas. At the time of the accident they were engaged in inspecting the stoppings; surrounding an area isolated on account of fire.

The number of accidents caused by explosives was eight, or six less than in the previous year. Two of the accidents were caused by attempts to withdraw charges of explosives after they had been placed in shot holes; and two were due to persons returning to places before all the charges had exploded. One accident was due to the foolish practice of drying gunpowder over an open fire; one was due to a misfire, and another to failing to take shelter when blasting was being done in a quarry. There were 28 serious accidents.

There were thirty-one fatal accidents on haulage roads. In nine cases they were caused by runaway tubs; in two cases by persons attempting to ride on tubs. Seven of the accidents took place on roads where tubs are moved by hand. The number of serious accidents was 138.

Of the three fatal accidents caused by underground machinery two were caused by coal-cutting machines. In one of these two accidents the deceased had been holding the stay prop—a dangerous practice and unnecessary if proper recesses for the prop are cut in the roof and floor. There were 14 serious accidents.

Of the six fatal accidents classified under the heading "Sundries Underground" only one calls for comment. In this case three men were killed by the air-blast caused by the fall of roof consequent on the extraction of pillars of coal in a seam 28 feet thick. There were 126 serious accidents.

Of the three fatal accidents caused by surface machinery two were due to the entanglement of clothing by revolving shafts. There were 19 serious accidents.

Twelve fatal accidents and 82 serious accidents occurred on surface railways and tramways belonging to the mine.

Two fatal and two serious accidents were attributable to electricity. In one of the cases the person killed had climbed a tower carrying a high tension transmission line. In the other fatal case death was due to electric shock by coming into contact with an electric cable which had been damaged by a fall of roof. The voltage was no more than 150 d.c.

There were ten miscellaneous accidents in open workings and 12 on the surface. In five cases the fatalities were due to workmen falling from ledges in quarries, and in three cases to boulders dislodged by workmen in quarries. Of the serious accidents 40 took place in open workings and 68 on the surface.

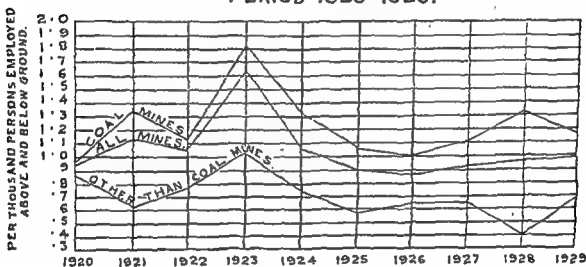
Twenty-seven accidents causing 39 deaths were excluded from the statistics for reasons which are given in Appendix II. Eleven were cases of drowning and three of burning or asphyxiation. In one case 9 persons were killed by an explosion in a gunpowder factory, and in

another 4 persons were killed by a subsidence of surface caused by a collapse of underground workings.

The death rate per thousand persons employed above and below ground was 0.99, as compared with 0.97 in 1928. The average rate for the preceding five years was 0.95. At coal mines only the rate was 1.17, as compared with 1.33 in 1928. The decrease is satisfactory. At mines other than coal mines the rate was 0.69, as compared with 0.40 in 1928 when the rate was unusually low.

The chart below shows graphically the variations in the death rate during the decade 1920-1929.

**CHART SHOWING
THE DEATH RATE FROM ACCIDENTS DURING THE
PERIOD 1920-1929.**



THE HIGH RATE IN 1923 WAS DUE CHIEFLY TO AN EXPLOSION IN A
COAL MINE WHICH CAUSED THE LOSS OF 74 LIVES

The death rate per million tons raised at coal mines was 8.70, while that of the preceding five years was 9.58

Deaths occurring in each class of mine were as follows:—194 in coal mines, 8 in mica mines, 6 in manganese mines, 20 in silver-lead mines, 8 in tin and wolfram mines, 4 in limestone mines, 11 in stone mines, 8 in iron ore mines, 8 in a ruby mine, 1 in a fire-clay mine, 1 in a salt mine, and 2 in a copper mine.

Eight persons lost their lives by ignitions of gas, 99 by falls of roof, 54 by falls of side, 13 in shafts, 2 by suffocation by gases, 9 by explosives, 31 by haulage, 22 by other accidents underground and 25 on the surface.

The number of serious accidents reported was 651, as compared with 654 in the previous year.

A list of the fatal accidents appears in Appendix II, Table I, where each is described briefly. The details of certain accidents are reported at greater length as follows:—

EXPLOSIONS AND IGNITIONS OF FIRE-DAMP.

No. 1.—The East Indian and Bengal Nagpur Railways Sawang coal mine.

In this accident six men were killed and three men seriously injured by an explosion of fire-damp in a shallow shaft sunk within a few feet of the edge of a quarry. All the coal mined in the Bokaro coalfield is obtained from the Kargali seam. At Sawang colliery the seam is 50 feet in thickness and dips at an angle varying from 1 in 3½ to 1 in 8. It has been extensively quarried, and the larger of the two quarries extends along the outcrop for a distance of 2,000 feet. In the virgin ground lying between the two quarries inclines have been driven down to a distance of 1,600 feet from the outcrop and a large area of coal has been suitably developed for extraction by machine mining in conjunction with sand stowing. During the development of these underground workings daily inspections were made with safety lamps but no inflammable gas had ever been detected, and open lights had been used throughout.

Within 10 feet of the upper edge of the larger quarry a pumping shaft, 8 feet in diameter and 65 feet deep, had been sunk. This shaft was not connected to the underground workings but was joined to the deepest part of the quarry by a drainage gallery driven on the floor of the seam, as shown on Plan A. Except for a few feet at the top where the ground was soft the shaft was unlined. It was sunk in the early part of 1925 and in the process of sinking it no gas was detected although daily inspections were made with a safety lamp.

During the rains of 1925, 1926, 1927 and 1928 two steam pumps installed near the bottom of the shaft were in constant use. From the end of November 1928 there had been no necessity to use the pumps but early in April and in preparation for the rainy season it became the intention to change one of the pumps. Under instructions Overman H. Shaw inspected the shaft at 4.30 p.m. on 15th April. His inspection was primarily made with a view to seeing that the ladders, platforms, etc., were safe, and, as the light of day was sufficient for his purpose, he did not use an artificial light. The drainage gallery was at that time free from water and there was a good current of air circulating through it and up the shaft.

On the morning of the following day one of the pumps was brought to the surface and a new pump was lowered into position. At 3.30 p.m. four men were on the pump platform in the shaft and six others were at or near the top of the shaft. They were engaged in adjusting the position of the pump by means of ropes and pulley blocks. No artificial lights were used as the light of day was sufficient for their purpose. While they were so employed there was an ignition of fire-damp in the shaft and a dull explosion ensued. The men at the top of the shaft were enveloped in flame and severely burnt. Three of the four men at the bottom of the shaft climbed up the ladders in the shaft and reached the surface. In doing so, however, they passed through the flames and were

fatally burnt. When shortly afterwards the manager arrived he could see jets of flame from 2 to 5 feet in length issuing from the sides of the shaft at a point about 35 feet from the surface. At 11 p.m. the coal in the sides of the shaft commenced to burn and as it was obvious that the man still at the bottom of the shaft could not be alive the top of the shaft was covered and the flames smothered.

It is impossible to say definitely how the gas became ignited. It may be assumed that one of the men at the pump had struck a match to light a cigarette. It is difficult to understand how the fact that gas was being given off escaped notice for more than four years. It may have been that on all previous occasions when lights were taken into the shaft the current of air induced by the heat of the steam pumps was sufficient to dilute the gas below the explosive limit. For several months prior to the explosion, however, the pumps had not been worked. On the day before the explosion there had been heavy rain, and at the bottom of the shaft water sufficient to cover the drainage gallery had collected. The circulation of air being thus prevented the percentage of inflammable gas in the shaft must have risen until the explosive limit being reached ignition took place. That gas is still being given off in the shaft is shown by the fact that it can be ignited at the end of a pipe inserted in the covering over the shaft. Immediately after the accident safety lamps were introduced throughout the whole of the underground workings of the colliery.

No. 2.—The Nazira Coal Company, Limited's Kangon coal mine.

At this mine a coal seam, 7 feet thick, dipping at an angle of 30° degrees, is worked, and up to the time of the accident inflammable gas had only once and that several years previously been detected in the workings, although from time to time it had been detected in other seams which had been worked to some small extent. Open lights were used, but the statutory inspections were made with safety lamps.

The accident occurred at the face of a rise gallery which was being driven through a pillar preparatory to the extraction of the pillar. The gallery was 4 feet wide and 4 feet high and had been driven up a distance of 16 feet. When at 5-30 a.m. the sirdar made his inspection he found no gas and considered the place to be safe for working. At 7-45 a.m. a miner and a munshi entered the place with the intention of measuring the progress made during the previous shift. When they reached the face an accumulation of inflammable gas was ignited by the hurricane lamp which the munshi was carrying. Both men were severely burnt and the miner's injuries proved to be fatal.

The test for gas made by the sirdar must have been perfunctory; it is even doubtful if the test was made, but this could not be proved. After the accident the use of open lights in any part of the workings of the mine was prohibited, and safety lamps and permissible electric flash lights only are now being used throughout the whole of the workings.

FALLS OF ROOF.

No. 29.—The Burma Corporation, Limited's Baldwin lead-silver mine.

In this accident ten men were killed by a subsidence of underground workings. The ore-body worked is of exceptional thickness, the maxi-

num being 140 feet; its average dip is 65 degrees. The workings have reached a depth of 1,100 feet. In 1925 there was an underground fire and a certain area of the workings lying between Nos. 3 and 5 levels was isolated by barricades. Recovery operations were commenced shortly after and have almost been completed. As might be expected the ore within the affected area has been rendered soft and incoherent.

The method of working is one in which the excavations made are closely supported by square set timbering and by waste material (earth and rock) which is quarried on the surface and directed into the stopes through waste passes. The timbers are carefully cut to standard measurements on the surface, and fitted with great accuracy in the stopes so that all posts are vertical and caps and sills are horizontal. A new set is inserted as soon as there is room for it and temporary support is given by fore-spoiling and side lagging. The timber is speedily covered by the filling, and no attempt is made to recover it. The lavish use of timber can be appreciated when it is mentioned that some 18,000 tons of timber are used in the mine annually.

The labour force is employed on a system of three shifts of eight hours. There is a well organised and highly trained staff of engineers and skilled miners. The mine superintendent is assisted by five other mining engineers, and every part of the mine is inspected daily by one or other of these men. Each shift is supervised by a mine foreman, three assistant mine foremen, nine shift bosses, four or five assistant shift bosses and nine supervisors. Every working place is visited once in the course of each shift by the mine foreman or one of his assistants, twice by shift bosses, and several times by the supervisors. Each crew of four miners is under a leader who is chosen for his long experience in the mine. At few mines, either in Europe or in India is such a reliable organisation and highly trained staff maintained.

At 6 A.M. on the 16th May an occurrence variously described by witnesses as a "bump", a crush, a loud noise like a gun going off, was heard on Nos. 3, 4 and 5 levels between co-ordinates 1200 and 1400 South. The "bump" was accompanied by an earth tremor and was followed by a mild air blast which extinguished most of the lights of those working in the area. The area affected is shown in Plans B and C, it extended vertically from the third down to the sixth level (a distance of 380 feet), and affected those levels for a length of about 170 feet. Within this area five stopes were being worked, and drives, levels, crosscuts and winzes were being advanced. It was fortunate that there was sufficient warning for the majority of the workers to make their escape in time. Of those employed between Nos. 5 and 6 levels all escaped except one who had gone up to No. 5 level to get timber. Three men were killed in a stope and a crosscut above No. 5 level and five men were killed by the collapse of a winze between Nos. 5 and 4 levels.

On No. 3 level four of six men at work in a crosscut got out safely, but two were imprisoned by the jamming of a ventilation door. Their lives were saved by the prompt action of Mazzuchelli Giacomo, assistant shift boss, who, obtaining an axe, chopped away part of the door and released them.

Some eighteen hours after the collapse the dead body of a workman and the unconscious body of another workman were found on No. 3 level at a point some 200 feet outside the area of the workings affected by the

collapse. The unconscious man on his recovery said that his light went out and he wandered about for some time and then lay down to sleep.

The filling of excavated ground with waste material does not prevent subsidence. There is evidence that the surface at this mine has slowly subsided more than ten feet, and points in the underground workings are now as much as 30 feet below their original level. The object of the filling is to reduce subsidence as much as possible and to encourage an even and gradual settlement of the superincumbent strata. Systematic mining also assists in bringing about an even and gradual settlement. In this part of the mine, however, it had not been found practicable to work in as systematic a manner as desired. The stoping had not been done regularly because in the earlier stages of the life of the mine high grade lead ore only was of value, and latterly the underground fire had delayed stoping operations. The ore-body on either side had been stoped extensively during the period since the fire, and increased weight had been thrown on the section which lagged behind. The resumption of stoping caused a release of stresses in the overloaded section, and this led to collapse. In other words a block of ore cut off at either side by extensive stoping and on one side by stopes in the centre of the ore-body subsided suddenly instead of gradually and brought about collapse of the workings made within it.

It will be understood from the foregoing that in the part of the mine in which the accident occurred conditions were abnormal, and that the chief cause of the abnormality was the fire—a circumstance beyond the control of the management. To have abandoned the section would have involved the loss of not less than 400,000 tons of high grade ore. A loss of this magnitude would not have been justified. It was reasonable to expect that with the complete filling method of working subsidence would continue in a normal manner. Every reasonable precaution had been taken, and no negligence or carelessness on the part of the management was disclosed.

No. 21.—Lodna Colliery Company, Limited's Sripore coal mine.

The coal seam worked at this colliery is 16 feet thick. It is liable to spontaneous combustion, and is, therefore, worked on the "panel" system—a method in which the workings are divided up into areas known as "panels" separated by wide barriers of unworked coal.

In a "panel" of this kind the extraction of a pillar, 170 feet in length by 80 feet in breadth, had been almost completed. All that was left of the pillar was a "stook" or portion of the pillar measuring about 15 feet by 10 feet. A gang of miners was engaged in extracting this "stook" when the roof collapsed, and four of them were buried and killed instantly. From enquiries made immediately after the accident it appeared that operations had been carried on in the usual manner and under proper supervision, and that no one had been criminally negligent.

The underground workings at this colliery lie at a depth of about 1,000 feet, and the process of extracting pillars at this depth is difficult and more dangerous than at shallower depths. At only two other collieries in the Raniganj coalfield are pillars being extracted at approximately the same depth. From December 1926 up to the time of this accident there had been ten fatal accidents in which seventeen persons had been killed by falls of roof and sides. Inquiries under Section 21

of the Indian Mines Act, 1923, have in the past been confined to the causes of and circumstances attending a single accident. In this particular case the causes and circumstances of the accident were not in doubt, but as it seemed to me desirable that there should be an enquiry I recommended to the Government of Bengal that a formal enquiry should be held, and that the Court should be asked to consider the whole question of the method of pillar extraction at the colliery, with a view to the adoption of such modifications as will be likely to prevent accidents of the kind. The recommendation was accepted, and the District Magistrate, Burdwan, was appointed to hold the enquiry with Messrs. J. H. Lang, Offg. Chief Inspector of Mines, and Messrs. J. B. Waidlaw and J. Mackie as assessors. The following are quotations from the report submitted by the Court.—

“ Pillars are extracted in rotation commencing from farthest in-bye end and working outwards, known locally as the “retreating” method or working “backs to goat” * * * The advantages claimed for this method of pillar extraction are:—(1) The workers are continually under a freshly exposed and adequately supported roof; (2) the rate of extraction is accelerated, (3) the area of roof required to be supported on timber is minimised and (4) economy in working. * * * The area of goat in No. 1 West Panel was 110,000 square feet, the maximum dimensions being 350 feet by 430 feet. As the depth was 1,000 feet we consider that the area of coal extracted was of insufficient size to induce a fall of the main roof and thereby reduce the weight on the surrounding pillars. The stoppings used had been so far reduced that it was not a pressure when the main roof came on this stook must have given some previous which went unnoticed. It is possible, however, that when the roof fell in on the previous week that the strata was fractured which would tend to lessen the warning. By whatever method a pillar is taken out a time comes when there is a small stook left, the extraction of which requires constant supervision by an experienced and competent staff, and although a collapse might not be prevented an experienced person would readily apprehend danger and withdraw the workers. As, however, there is no evidence that the roof gave warning we cannot hold any one to blame. We were unimpressed by the quality of the supervising staff subordinate to the manager and would suggest that this be strengthened. We do not consider that any regulations were violated. * * * In 1927 and 1928 the death rate per 1,000 persons employed was 3.47 and 7.17, respectively, the figures for all coal mines being 1.10 and 1.33. The death rate figures for Sripore also compare unfavourably with those for Assam where the worst natural conditions of all the coal mines in India have to be faced. * * *

After taking into consideration all the conditions that obtain at Sripore colliery, such as the flatness of the seam, comparatively good roof and the speed with which extraction proceeds and in view of the evidence of expert opinion we do not think it possible to condemn entirely the system of pillar extraction. * * * that it is more dangerous than * * * about the coalfield even altho * * * excessive.

Retreating from the goat, an open end is left behind, i.e., a large area of exposed roof is allowed to break and collapse of its own accord.

In the evidence adduced at the inquiry it was, we think, proved that neither props nor cogs were useful for breaking the overhanging roof or limiting the extent of the collapse when the coal and temporary supports were removed.

Working towards the goaf, additional support is rendered by the pillar of coal under extraction and by placing a limit to the area of roof that can be safely carried on timber supports.

It might be preferable, under whatever conditions and at all depths, to extract pillars with the line of face advancing towards the goaf and where possible, proceeding from rise to dip because by this method we are convinced that better control of the exposed roof can be exercised. The rate and direction of the dip of the strata is a decisive factor in all cases. For instance, in a seam similar to the Poniat dipping, say, 1 in 5 it would not be good practice to extract pillars with back to the goaf along the strike, as no amount of timbering would make the place safe to work in, or prevent the stones from the goaf knocking out props.

The Agent, Mr. Archibald, objects to systematic timbering as he does not want to hamper the sirdars but wishes them to think and exercise judgment. We fail to see why they should not exercise judgment when rules for systematic timbering are laid down. Some of the previous accidents have been due to bad judgment on the part of the subordinate staff and this can to a certain extent be counteracted by systematic timbering.

The management have shown considerable initiative in breaking away from the old methods employed generally in India and we do not wish to hamper their efforts to introduce new methods of working and therefore agree that a fair trial should be explained by the Agent and detailed in the . . . there be no improvement with regard to . . . might be made to working with the line of face advancing towards the goaf. At this colliery it is necessary to form panels on account of the risk of fire. These panels should be made as large as possible so as to allow of the main roof collapsing and thus minimise the pressure on the surrounding pillars.

Depillaring operations at a depth of 1,000 feet are at present being carried out at very few mines in India but as the seams lying at a shallower depth are exhausted more collieries will be opened up to win coal from depths approaching 1,500 feet. Experience alone will prove which is the most efficient method of working for general adoption so as to ensure safe and economical pillar extraction consistent with large outputs.

mitted until the roof coal has been dressed down. This is necessary to limit the distance of advance of the bottom coal and prevent overhanging roof coal.

(3) Limitation of blasting where the pillar has been reduced to a rib or stook.

(4) Continuous and competent supervision should be arranged when recovery of stooks is necessary and when closed faces are being reopened.

The subordinate staff should be strengthened by the appointment of additional overmen each of whom should not have more than two panels to supervise.

Since the accident the method of working has been entirely changed. All development and depillaring is now being done on a short wall system under which 50 per cent. of the coal, in barriers 32½ feet wide, will be left for a second working on retreat from the boundary. Since the change there has been no accident by fall of roof or side.

No. 50.—The Government of India Railway Board's Serampore coal mine.

In this accident five persons were killed by the collapse of a pillar of coal under extraction. The seam of coal is from 18 to 22 feet in thickness and varies considerably in texture. As a rule it is fairly hard, but within a certain belt it is soft except for the coal, 4 feet thick, at the top of the seam. It was within this soft belt of coal that the place of accident was situated. In the ordinary process of extraction pillars, 50 feet square, are extracted in one operation, but where the coal is soft the pillars are split in two directions, and the four small pillars so formed are taken out one by one.

At the place of accident the goaf adjoining had collapsed. A pillar, 50 feet square, had been split into four smaller pillars, each about 14 feet square, by splits, 7½ feet wide and 7 feet high, driven in the bottom of the seam. After the completion of the splits what is locally known as a "howdar" (an upward cutting in roof coal) was being driven to meet the hard top coal which forms the roof of the working. Ample supports in the form of cogs and props had been set up (see Plan D). The "howdar" had been extended to a height of 1½ feet above the splits when the quarter pillar which it was intended to extract collapsed and buried five of the workers. Subsequent inspection showed that a mass of coal and roof stone had fallen from between "slips" on three sides and from a sooty parting between the top hard coal and the main sandstone roof. These "slips" were visible in the top hard coal, but did not extend into the soft coal, and therefore could not have been detected beforehand.

In the Annual Report for 1928 an account is given of two accidents by falls of roof and side at this colliery. These two previous accidents were accompanied by what is known as "bumps". They occurred in a part of the mine where the coal is hard and it was possible to take out a number of pillars before there was any sign of "weight". The conditions in these two areas were entirely different to what they were in the present case.

The recent accident was due to the "slips", although the initial movement may have been induced by further settlement of the adjoin-

ing goaf. The soft bottom coal not being strong enough to resist the thrust of the upper strata collapse resulted. The place was under constant and competent supervision but nothing unusual had been noticed, and no warning of the collapse appears to have been given. Under these circumstances the accident has been classed as due to "misadventure".

No. 39.—The Bayra Coal Association's Sikdardih coal mine.

At this mine pillars of coal were being extracted in a seam, 8 feet thick, dipping at 1 in 4. A pillar 45 feet square had been reduced to 25 feet by 6 feet. Between this pillar and the next pillar to the dip there was a space, 29 feet in width, supported by props. Owing to the presence of a slip in the roof this area was known to be dangerous, and the workmen had been warned not to enter it. Notwithstanding this three miners accompanied by three female carriers entered the place with the object of picking up loose coal which was lying there. While they were doing so the roof fell over an area measuring 25 feet by 20 feet, and four of them were killed.

The place was known to be dangerous before the accident, and the deceased knew that they were disobeying orders by entering it. To give verbal instructions that the place was dangerous and must not be entered was, however, not sufficient. It may be that the erection of a fence would not have prevented the deceased from entering the dangerous area, but it would certainly have acted as a deterrent and it is a precaution enjoined by the Regulations. The manager and the assistant manager were considered to be responsible for this breach of the Regulations. Criminal proceedings were instituted against them and they were convicted and punished.

No. 20.—The Equitable Coal Company, Limited's Hurriladih coal mine.

. At this mine the seam worked is 27 feet in thickness. The method of working is to drive galleries, 14 to 18 feet wide, on centres 80 feet apart, forming pillars from 62 to 66 feet square. The galleries are driven on the floor of the seam, and their height is afterwards increased by blasting down coal from the roof. In a certain gallery, 18 feet in width and 10 feet in height, a bench of roof coal, 8 feet in thickness, was being mined by blasting. Two C. P. miners drilled a hole in the roof coal and fired a shot of country gunpowder. After waiting until the smoke cleared they returned to the gallery and dressed down the loose coal near the shot hole. They then left the gallery and instructed the loaders to commence loading. Nine loaders commenced to load coal from the gallery, and shortly after masses of coal, each estimated to weigh some 2½ tons, fell from the roof and sides at a point some 15 feet in advance of the "lip" or edge of the bench of roof coal. Two of the loaders were struck by the coal and killed instantly.

It was evident that the two C. P. miners had done no more than dress the "lip" of the roof coal and had failed to inspect properly the adjacent part of the gallery. It was near the end of their shift and they were presumably anxious that the loaders should commence loading as soon as possible. If they had inspected the gallery carefully and dressed down the unsound coal the accident would have been avoided. They absconded within a few hours of the occurrence. As

their whereabouts was unknown and it would have been difficult to prove that they did not make a proper examination of the place criminal proceedings were not instituted.

Two important questions arise out of this accident. In the first place in order to reach the loading point the loaders had to pass under roof coal which had been blasted, and there was, therefore, a possibility of unsound pieces of coal falling upon them unexpectedly. Whenever possible loaded coal should be carried away from the bench and not under the bench. In this particular instance it was urged that to do so would have meant carrying the coal for a distance of 250 feet instead of for a distance of 25 feet only. By a proper arrangement of tramlines, however, the distance to be carried need not have been so great. Tramlines could have been kept within a distance of a few feet from the edge of the bench. The second point is the support of the roof coal while loading is in progress. If supports are set at suitable distances in advance of the roof coal that is being blasted the edge of the bench will be kept supported. It is true that such supports are apt to be dislodged by the concussion caused by blasting. If, however, they are set at suitable distances and replaced when dislodged loading can be carried on with greater safety.

FALLS OF SIDE.

No. 66.—*The Brindaban Industrial Syndicate Limited's Square No. K. 32 (Kodarma forest) mine.*

This accident affords an example of the illegal practices rife in the mica field of Chota Nagpur. A prospecting shaft had been sunk on the side of a hill to a depth of 30 feet and had then been abandoned as the side of the shaft had become insecure and it was not safe to work there. Although the top of the shaft had been fenced to prevent access yet during the usual stoppage for work at the week-end a miner passed through the fence descended the shaft, and attempted to extract a block of mica embedded in the side of the shaft. In doing so he undermined the side of the shaft, and a mass of stone fell upon and killed him instantly. The ease with which mica can be disposed of in the mica fields invites offences of this kind. It may be hoped that the Bihar and Orissa Mica Act, 1930, will be effective in removing the incentive to such offences.

IN SHAFTS (FALLEN DOWN SHAFT).

No. 118.—*Messrs. Chandanmull Indrakumar's Monoharbahal coal mine.*

A loaded cage had been raised to the top of a shaft 360 feet deep, and before it had been lowered on to the "keps" or cage props the banksman had begun to push a loaded tub out of the cage when, owing to the "keps" not being in position, the cage descended for a few feet, precipitating the tub and the banksman to the bottom of the shaft.

The accident would not have occurred if the banksman had not attempted to remove the tub until the cage had been brought to rest on the "keps". The "keps" were in perfect order and if they had been in position the cage could not have gone below the banking level.

This accident shows the advisability of attaching weights to keps levers so as to bring the "keps" into position automatically, and such an arrangement is already provided at the better equipped mines. After the accident the agent of the colliery issued orders for the provision of automatic "keps" at all the collieries controlled by him.

SUFFOCATION BY GASES.

No 125—*The Bhulanbararee Coal Company, Limited's Bhulanbararee coal mine.*

In this accident two subordinate officials who were inspecting the stoppings surrounding a fire area were overcome by an outburst of gas. A number of pillars of coal in No 15 seam, 27 feet thick, had been extracted from an area adjacent to the outcrop, and as the extraction had been followed by an outbreak of fire in the goaf the area had been isolated by stoppings and a barrier of sand introduced by hydraulic means (see Plan E).

Between 10 and 11 p.m., on 11th August, the manager of the mine was informed that the electric current had failed. He went to the mine at once and on arrival met an overman and sirdar whose duty it was to inspect the fire stoppings. He was told by them that some of the stoppings were leaking, and accompanied by them he went underground but on account of foul gas could not get beyond the fifth level (No. 10 stopping). By making a detour they reached points on the 13th and 14th level from whence flame could be seen over the sand packing. Gas could be heard issuing, and the manager presumed that the point of issue was in the vicinity of No. 1 stopping (see Plan E). They returned to the surface and the manager went to the office where he met the Electrical Engineer and discussed with him measures for the detection of the fault in the electrical transmission line.

Before leaving the overman and sirdar the manager had told them to go to another entrance (No. 3/15 incline) and wait for him there. When he arrived about quarter of an hour later he found two umbrellas lying near the entrance and rightly presumed that the two men had gone ahead to make an inspection. Accompanied by another official the manager went down No. 3/15 incline but owing to the presence of gas was unable to get below the second level. When he returned to the surface it was reported to him that a workman at the top of No. 1 pit had heard an explosion underground, and when he reached this shaft he found it upheaving and full of irrespirable gas. Being unable by reason of the gas to descend the shaft to the workings of No. 15 seam he attempted to ascend to them from the underlying workings of No. 14 seam, but was again unsuccessful and for the same reason. He then descended C pit which communicates with D and connected workings in No. 15 seam, and after some search found the deceased overman lying dead between the 19th and 20th levels. A safety lamp was found just above the 19th level. On the following day the body of the sirdar was found in the 21st level, and on the 19th level. It was disclosed that on the 14th and 15th levels the sand packing was clear and on the 12th August there was still upheaving there was a strong stink.

The immediate cause of this accident was most unusual. On the night of 10th August it rained incessantly for about six hours, and five inches of rain is said to have fallen. A great deal of water must have found its way into the quarry and from thence to the active fire area, where steam must have been generated so quickly as to cause a blow-out over the sand packing which had already sagged slightly in the vicinity of No 1 pit. Several of these blasts probably occurred, and some of them were heard by various officials. From the position in which their lamps were found it appears that the two deceased were near the door C (see Plan E) when a blast occurred and gases were emitted from the 14th and 15th levels. They were able to travel about 600 feet without lights before they were overcome by the gas.

After the accident the spaces above the sand filling were filled and in addition stoppings were built so as to allow the sand to be kept tightly rammed against the roof.

As other accidents by gas poisoning or asphyxiation have since occurred I thought fit to issue a warning circular to managers of coal mines in which underground fires have occurred.

UNDERGROUND MACHINERY.

No. 166.—The Bengal Bhatdih Coal Company, Limited's Bhatdeo coal mine.

A coal cutting machine was set in position for jibbing in to undercut a gallery, and one of the attendants was leaning over the jib holding the anchor post. As soon as the chain tightened the anchor post, however, the post slipped out of position, and deceased fell with it and was fatally injured by the cutting chain. After the accident it was found that for the setting of the anchor post reliance had been placed on a small recess in the roof only, and that no recess had been cut in the floor.

After the accident orders were issued as follows:—

- (a) Proper recesses to receive the anchor post shall be cut in the roof and floor.
- (b) All persons shall retire behind the machine before it is set in motion.
- (c) The head machineman shall be responsible for the observance of these precautions.

SUNDRIES UNDERGROUND.

No. 172.—The East Indian Coal Company, Limited's Barari coal mine.

This accident took place in the vicinity of an area of workings in No. 15 seam from which pillars of coal were being extracted. The seam is 28 feet in thickness and in the process of extraction the full thickness is worked. The area concerned lies at a depth of from 80 to 100 feet and is 400 feet in length by 250 feet in breadth; it contained 48 pillars of coal of varying sizes, the average being 35 feet square. As the coal is liable to spontaneous combustion the area or "panel" had been isolated by building brick stoppings in the galleries surrounding it. These stoppings were from 4 to 5 feet thick at the base and 3 feet thick

at the top, and were recessed into the floor and sides. Openings known as "vent-holes" or "passage holes" had been left in five of the stoppings to allow the passage of the air which would be displaced when the inevitable and expected fall of the roof took place. The exceptional strength of these stoppings was necessitated by the fact that close by there were fire areas isolated by fire stoppings, and it was important that these fire stoppings should not be damaged by air blasts.

At the time of the accident eight pillars had been extracted and portions of eight other pillars had been removed. At 4-30 A.M., when some 70 to 80 persons were at work in and about the depillaring area ("panel") the overman noticed "weighting", i.e., symptoms of impending collapse, and he and the sirdar withdrew all persons from the "panel" to the outer side of the stoppings. Some two or three hours later an area within the "panel", measuring about 250 feet by 150 feet, collapsed, and with such suddenness that air was violently expelled through the "vent-holes". At that time unfortunately a number of the workers were sitting or standing in front of one of the "vent-holes" and the strength of the air-blast was so great that they were thrown down with violence and two of them were killed, one fatally injured and four seriously injured.

Enquiry into the circumstances of the accident disclosed the fact that every necessary precaution had been taken. Regulation 79 is pertinent. It reads as follows —

"Where the method of extraction is to remove all the coal, or as much of the coal as is practicable and allow the roof to fall in, operations shall be conducted in such a way as to leave as small an area of uncollapsed roof as possible and, where practicable, means shall be taken to bring down the roof at regular intervals"

In this case operations were being conducted in such a way as to leave as small an area of uncollapsed roof as possible. The "panel" was not a large one, the workings were being regularly advanced, and no coal was being left behind. There had, therefore, been no violation of this regulation. The subordinate officials had been ordered to withdraw all persons beyond the stoppings if any "weighting" of the roof was detected. This had been done but unfortunately the workmen had not been sufficiently instructed to keep away from the "vent-holes". Since the accident special retiring stations have been prepared in places out of the direct line of any possible air-blast, and the workmen have been instructed to sit down in such places when danger is apprehended.

Air-blasts caused by sudden falls of roofs in goaves (empty spaces underground) have long been experienced in the thick seams of the Indian coalfields. They cannot be prevented although their effects may be mitigated. In several instances they have caused cages to be blown up in shafts, and in one such case in the Jharia coalfield a few years ago an official, who was ascending the shaft with the object of reporting to the manager that a fall of roof in a goaf was imminent, was killed by the fracture of the winding rope which took place when the cage fell back after having been blown up by the blast. It must not, however, be understood from the foregoing that dangerous air-blasts follow every large fall of roof. Dangerous air-blasts are uncommon, and it is difficult to prevent them when they are likely to occur. Much depends

on the character of the strata, the degree of extraction which has been obtained and the time occupied by the fall. If the fall is gradual—as is usually the case—there is little or no air-blast. On the other hand if it is sudden a violent air-blast may result.

SURFACE MACHINERY.

No. 184—The Maharaja of Kasimbazar's South East Baraboni coal mine.

The deceased in this case was employed on a lathe in the colliery workshop. His body was found twisted round the main power shaft. As the driving belt had come off the pulley it was assumed that he went to the place to replace the belt. The power shaft was $2\frac{1}{2}$ inches in diameter and revolving at a rate of about 200 revolutions per minute. Although it was a smooth shaft the man's loose clothing had become entangled and was wrapped round it.

Mine managers do not always realise the danger of revolving shafts, and when the danger is pointed out they are apt to remark that there is no projection on which anything can catch. This accident clearly shows the dangers of comparatively slow running exposed shafts even when they are smooth. All such shafts should be guarded, and all persons who work near machinery should be advised to wear tight fitting clothing.

The fencing of surface machinery should be such as not only to guard against normal risks but also, as far as possible, against the carelessness, ignorance and disobedience of workmen.

ON SURFACE RAILWAYS AND TRAMWAYS.

No. 102.—The Lodna Colliery Company (1920), Limited's Lodna coal mine.

In the colliery siding it was necessary to shunt a railway wagon by hand, and the loaders were about to do so when they found a youth beneath it who was apparently sheltering from the heat of the sun. They told him to come out, but instead of doing so he remained beneath the wagon and, in contravention of Regulation 151, helped to move it by pushing on the central brake axle. In doing so he placed his foot in such a position that it was run over by the wheel of the wagon. Twelve days later he died in hospital.

This accident should not have occurred. In the first place deceased should not have been under the wagon. Being there, he should, under Regulation 150, have been warned by the person in charge. The latter, however, was at that time in another wagon counting bags of coal, and the loaders took it upon themselves to move the wagon without him.

Coal Mines Regulation 151 reads as follows:—

“ The movement of railway wagons by gravity or manual power shall only be carried on under the direct supervision of a responsible male person who shall either himself control the brake or depute a competent person to do so. Where more wagons than one are being moved at the same time the wagons shall be coupled together. Persons employed in moving wagons shall do so only by pushing from the last wagon.”

Proper observance of this regulation would prevent accidents of this kind.

NON-STATISTICAL.

No. 2.—The Phularibad Coal Company, Limited's Phularibad coal mine.

At this mine an area of the surface, 540 feet in length and 390 feet in breadth, subsided unexpectedly to a depth of from 7 to 14 feet, carrying with it a number of buildings and causing the death of four unemployed persons. Although no underground work had been done at the mine for two years yet the workmen's dwellings had continued to be occupied by some eighty persons, chiefly former employees of the mineowners. The buildings were insanitary and, at the instance of the Medical Officer, Jharia Mines Board of Health, efforts had been made to evict the occupants, but these efforts had proved unsuccessful and the tenants had remained in the buildings without payment of rent. For some time prior to the subsidence the Phularibad Coal Company, Limited—the mineowners—had been in liquidation, and a civil suit with the landlords was in progress. An injunction arising out of this suit prevented any interference with buildings, and the liquidator had, therefore, been unable to render the buildings uninhabitable.

At this mine three seams had been worked. No. 14 seam, 20 feet thick, outcrops within the area of subsidence. No. 13 seam, 18 feet thick, lies at a depth of 90 feet, and No. 11-12 seam, 42 feet thick, at a depth of 240 feet. No underground work had been done in Nos. 13 and 14 seams for ten years, and in No. 11-12 seam for two years.

Some three years prior to the subsidence and one year prior to the discontinuance of underground work the Inspector of Mines, No. 1 Circle, had expressed dissatisfaction with the underground support provided in a certain portion of the workings of No. 11-12 seam, and at his instance forty-four "chocks" or "cogs" of railway sleepers filled with stone had been set up in the underground workings. That these supports proved effective is shown by the fact that it was not these workings that subsided but an adjacent area in which work was carried on for some six months after the building of the cogs. At the time when the cogs were completed the Inspector was satisfied that the pillars in the adjacent area afforded sufficient support. Their condition when six months later underground work ceased was not known with certainty as no subsequent inspection had been made by an officer of the Mines Department. As shown on the plan the centres of the galleries were from 50 to 60 feet apart. The former manager of the mine said that at the time when underground work ceased the galleries were from 30 to 40 feet high and from 18 to 25 feet wide, and that when he made his last inspection there was no sign of crush and the workings appeared to be in order. The former agent said that when he made his last inspection about a month before the mine was closed down the workings did not appear to be unsafe. Both he and the former manager denied responsibility for the subsidence, and it would have been difficult to prove such responsibility as the underground workings had remained stable for two years after discontinuance. Criminal proceedings under the Mines Act were in any case time-barred.

For many years past the Mines Department has paid particular attention to the matter of underground support for surface buildings,

roads and railways, and cases in which Inspectors obtain the execution of protective works, the evacuation of buildings or the diversion of roads are numerous. The danger of unexpected collapses is greatest in the Jharia coalfield where the seams being exceptionally thick, numerous and close together, it is sometimes difficult to appreciate when a condition of instability has been reached.

Section IV.—Prosecutions and amendments to the Act, Regulations and Rules.

PROSECUTIONS

NOTE.—The reference to Regulations in this section is to the Indian Coal Mines Regulations, 1926, or the Indian Metalliferous Mines Regulations, 1926. The Rules referred to are those framed under Section 30 of the Act by the Local Government concerned.

During the year judgments in prosecutions were given as follows:—

The owners (two), the agent and the manager of Messrs. A. C. Bose and Gopiram Bhotica's Central Nandi colliery were prosecuted under Regulations 15 (3), 53 (2) and 76 (2) for failing to keep a tracing of the surface plan at the mine, for failing to provide means for raising persons from the second outlet and for allowing the workings to encroach beyond the boundary of the property. The Agent was fined Rs. 20 and the manager Rs. 30, in default simple imprisonment for twenty days and one month, respectively. The case against the owners was withdrawn.

The agent, sub-agent and manager of Messrs. The Netra Manganese Company, Limited's Majri colliery were prosecuted under Regulations 15 (2) and (4), 53 (2) and 137 (2) for failing to keep a plan of the underground workings at the mine, for failing to provide proper means for ascending and descending the working pit and for failing to fence two discontinued pits. The agent and sub-agent were acquitted. The manager was fined Rs. 15.

The owners and managers of Messrs. B. L. Pain and Sons' Chandore colliery and the West Angarpathra Coal Company's West Angarpathra colliery were prosecuted under Regulation 76 (1) for working within twenty-five feet of the boundary between the Chandore and West Angarpathra mines. The owner and the manager of Chandore colliery were fined Rs. 15 each, in default simple imprisonment for five days. The owner of West Angarpathra colliery was fined Rs. 25 and the manager Rs. 15, in default simple imprisonment for five days.

The owners (three) and manager of the Khas Angarpathra Coal Company's Khas Angarpathra colliery were prosecuted under Regulations 58 (1), 139 and 141 for failing to provide suitable gates or rigid fences on the cages used for raising and lowering persons, for failing to fence in a proper manner disused galleries and for failing to fence or guard the exposed and dangerous parts of the machinery. The owners were fined Rs. 20 each and the manager Rs. 50, in default simple imprisonment for two weeks each and one month, respectively.

The manager of the Kurharbaree Coal Concern's Kurharbaree colliery was prosecuted under Rule 17 for failing to fence an area on the surface which was likely to be endangered by a subsidence as a result of mining operations. He was acquitted.

Two miners of Messrs The Krishna Coal Company, Limited's Searsole Khas colliery were prosecuted under Regulations 82, 84, 146 and 148 for working in a place other than the place in which they had been ordered to work, for cutting coal from a pillar without authority to do so, for endangering their lives and limbs by working in a place that was not safe and for passing through a fence erected to prevent persons entering. They were fined Rs. 10 each, in default simple imprisonment for three days.

The managing owner of Messrs Sircar and Dutt's Haripur colliery was prosecuted under Regulations 100, 104, 101 and section 28 of the Act read with Regulation 149 for failing to appoint a competent person to take charge of the magazine, for failing to keep a correct record of the quantity of explosives issued and returned to the magazine, for issuing explosives to unauthorised persons and for failing to appoint a competent person to keep the attendance register. He was fined Rs. 32, in default simple imprisonment for two weeks.

The owners (eight) and manager of Messrs. K. S. Nanji and Company's Kujama colliery were prosecuted under Regulation 149 and section 28 of the Act for failing to keep a correct record of persons going underground daily and of the actual number of hours worked. Two of the accused died. The remaining six were fined Rs. 20 each and the manager Rs. 100, in default simple imprisonment for three days each and ten days, respectively.

The manager of the Central Bansjora Colliery Company's Central Bansjora colliery was prosecuted under section 23 (b) of the Act and Rule 9 for employing the boiler firemen of the colliery for more than sixty hours per week and for failing to have the register of work persons properly maintained. He was fined Rs. 15, in default simple imprisonment for three days.

The owner and agent of the Central Angarpathra Colliery Company's Central Angarpathra colliery were prosecuted under Regulation 23 read with Section 15 of the Act for working the colliery without a qualified manager. The former was acquitted and the latter fined Rs. 80.

For the same offence the owner of the Chutai Colliery Company's Chutai colliery was prosecuted. The case was withdrawn as it was found that the accused was a minor.

The manager of the above-mentioned colliery was prosecuted under Regulations 23 and 24 for having acted as manager without possessing the requisite qualifications. He was fined Rs. 25, in default simple imprisonment for ten days.

The owners (three) of Messrs. Thakur Singh and Others Singracole colliery were prosecuted under section 14 of the Act for failing to submit the necessary notices of re-opening and closing the mine. They were fined Rs. 5 each, in default simple imprisonment for ten days.

The manager and attendance clerk of Messrs. Chandannull Indrakumar's Monoharbahal colliery were prosecuted under Rule 9 and section 28 of the Act for falsifying the attendance register of work persons at the mine. The clerk was fined Rs. 15, in default simple imprisonment for one week. The manager was acquitted.

The owner of the East Dharmaband Coal Company's East Dharmaband colliery was prosecuted under Regulations 15 (2) and 76 (J) for failing

to keep an accurate and up to date plan of the mine and for permitting work to be done within twenty-five feet of the boundary of the mine. He was fined Rs. 25.

The owner of Bhatto Lodhi's Barawali steatite mine was prosecuted under Regulations 38, 46 and 48 for failing to keep secure the sides above the entrance to a tunnel, for failing to provide a barrier at the top of the tunnel and for failing to provide steps, ladders or other means of climbing or keeping a footing while at work in places where they were needed. He was fined Rs. 5.

The owner-manager of Sadhuram Shukla's Bargawan limestone mine was prosecuted under Regulations 38, 40 and 72 for failing to keep the sides of the workings sloped, stepped or secured, for failing to remove all overburden and loose material sufficiently far from the edge and for failing to keep a register for recording shots fired, quantity of explosives used and shots, if any, misfired. He was fined Rs. 60.

The manager of Ganpat Roy Kedarnath's Bhanekhap mica mine was prosecuted under section 26 of the Act and Rule 9 read with section 28 of the Act for employing a child in the mine and for failing to maintain a register of work persons. He was fined Rs. 25, in default simple imprisonment for two weeks.

A shot-firer and miner of Messrs The Pench Valley Coal Company, Limited's Barkus colliery were prosecuted under Regulations 144, 108 and 101. The former for deputing an unauthorised person to fire shots in the mine and the latter for having stemmed and fired shots and having kept explosives in his possession without the proper authority. They were fined Rs. 15 each, in default rigorous imprisonment for one week.

The owner of Sukhn Ram Gond's Tarachandi sandstone mine was prosecuted under Rules 8 and 9 and section 15 (2) of the Act read with Regulation 21 (1) for failing to keep in stock the requisite ambulance appliances and for failing to appoint a qualified manager. He was fined Rs. 100, in default simple imprisonment for two months.

The owners (two) and manager of Messrs. N. K. Neogi and P. N. Das's Jamunanahali colliery were prosecuted under Regulation 15 (2), (3) and (4) for failing to keep a correct plan of the workings of the mine, for failing to keep a separate tracing of the surface plan showing all the surface features and for failing to keep in the office at the mine an up to date plan. They were acquitted.

The manager and contractor of the Aldih Coal Company, Limited's Aldih colliery were prosecuted under section 23 of the Act for employing persons underground for more than fifty-four hours during the week. They were fined Rs. 50 each, in default simple imprisonment for one month.

The owner and manager of the Nandi Coal Association's Nandi colliery were prosecuted under section 19 (2) of the Act and Regulation 24 (1) for employing persons for cutting and loading coal in an area in which working had been prohibited by the Chief Inspector, and for failing to appoint a temporary manager during the absence of the permanent manager. They were fined Rs. 50 each, in default simple imprisonment for one month.

The manager and shot-firer of Messrs. J. S. Mull & Company's Kendwa mica mine were prosecuted under Regulations 71 and 81. Th

manager for failing to appoint the sh- - - - -
in a book kept for that purpose and
the working place after blasting
Rs. 15, and the latter Rs. 30, in default simple imprisonment for one week.

The manager and sirdar of Messrs. Chattu Ram and Darsan Ram's Belum mica mine were prosecuted under Regulation 38 for permitting work to be done in an excavation which was in a dangerous condition, as a result of which an accident took place in which a person was killed. The manager was fined Rs. 100, in default simple imprisonment for three months and the sirdar was sentenced to six months rigorous imprisonment.

For the same offence which also resulted in an accident in which a woman was killed the owner and manager of Messrs. The New Kusunda Collieries Limited's New Kusunda colliery were prosecuted. They were fined Rs. 100, and Rs. 15, in default simple imprisonment for seven days and three days, respectively.

A sirdar of Messrs. The Amalgamated Coalfields Limited's Datla colliery was prosecuted under Regulations 143 and 148 for disobeying orders of the manager and for removing a fence without the permission of the manager, as a result of which four persons lost their lives. He was fined Rs. 30.

The manager and assistant manager of the Bayra Coal Association's Sikdardih colliery were prosecuted under Regulations 139 and 140 (1) for failing to fence a place which was dangerous with the result that persons entered it, of whom four were killed and one seriously injured. The manager was fined Rs. 500. The assistant manager was acquitted.

The owners (four), the manager and a sirdar of the West Ghusick Coal Concern's West Ghusick colliery were prosecuted under Regulations 72, 121 and 146 for allowing persons to - - - - - mine was in a dangerous condition due to - - - - - gas, for failing to keep the mine adequately - - - - - and render harmless inflammable gases, and for failing to take necessary precautions for the safety of persons employed in the mine. The manager and the sirdar were fined Rs. 100 each, in default simple imprisonment for one month; the owners were acquitted.

The safety lamp room attendant of Messrs. The Bengal Iron Company, Limited's Ramnagar colliery was prosecuted under Regulation 127 (a) for issuing a safety lamp which was not in safe working order, with the result that an ignition of gas occurred and three persons were injured. He was fined Rs. 50, in default simple imprisonment for ten days.

A sirdar and shot-firer of the Newton Chickli Collieries Limited's Newton Chickli colliery were prosecuted under Regulations 109 and 110 read with Special Rules 40 and 48 in the case of the sirdar, and Special Rule 88 in the case of the shot-firer, for failing, when about to fire a shot, to give notice to all persons likely to be endangered. They were fined Rs. 25 each.

Forty-five prosecutions were instituted for failure to submit annual returns within the prescribed date. In twenty-eight cases fines aggregating Rs. 755 were imposed. The other cases were dropped on various grounds.

Prosecutions were instituted under Regulation 17 for failure to submit plans of abandoned or discontinued workings of mines, as follows:—

- (a) The owner of the Bharat Luxmi Coal Company's Bharat Luxmi colliery was fined Rs. 10.
- (b) The owner of Benoy Krishna Mukherjee's Nudkhurkee colliery was fined Rs. 5.

Information was received of the following prosecution:—

The owner of Sadhuram Shukla's Bargawan limestone mine was prosecuted under section 37 read with sections 26 and 3 (c) of the Act for employing children in his mine. He was fined Rs. 50.

Information was received of the following prosecutions instituted by mine officials against subordinates:—

The Colliery Superintendent of the Assam Railways and Trading Company, Limited's Tikak colliery prosecuted a lampman for unlocking a safety lamp when underground. The lampman was fined Rs. 50.

The manager of the Equitable Coal Company, Limited's Huriladih colliery prosecuted a miner under Regulations 82, 84 and 148. After having entered a prohibited area by removing the fence the miner robbed coal from a pillar and then ordered another miner to load the robbed coal, thereby being responsible for the death of the miner by falling coal. He was sentenced to six months rigorous imprisonment.

The manager of the Bagdiggi Kujama Collieries Limited's South Kujama colliery prosecuted an overman and shot-firer under Regulation 117 for failing to take adequate precautions to prevent persons entering a gallery before it had been made safe. They were sentenced to three months rigorous imprisonment each. The overman was acquitted on appeal.

The manager of the New Beerbhum Coal Company, Limited's New Beerbhum colliery prosecuted a sirdar under Regulation 144 for being absent from duty without permission. The case was dismissed as the complainant arrived at the court late.

The manager of the Burrakur Coal Company, Limited's Saltora colliery prosecuted a trolleyman under Regulation 58 (f) (iv) for acting as bank-man without authority, thereby causing an accident in which a person was injured. The trolleyman was fined Rs. 50, in default rigorous imprisonment for one month.

The manager of the Burrakur Coal Company, Limited's Jayabad colliery prosecuted an engine khalassi under Regulations 144 and 146 for leaving his engine room without permission, with the result that an accident occurred. The man was fined Rs. 40, in default simple imprisonment for twenty days.

The manager of the Equitable Coal Company, Limited's Bejdih colliery prosecuted the electrician of the colliery under Regulation 143 for not complying with certain orders. The man was acquitted.

The manager of the Standard Coal Company, Limited's Benahi colliery prosecuted two miners under Regulations 82 and 84 for working in a place and cutting coal without being authorised to do so. The case was dropped as the accused could not be traced.

Three miners and two loaders of the same colliery were also prosecuted by the manager under Special Rules 3, 5, 7, 15 and 21 and Regulations 82, 84, 147 and 148. They were fined Rs. 4 each.

AMENDMENTS TO THE INDIAN MINES ACT AND TO THE REGULATIONS, RULES AND BYE-LAWS MADE UNDER THE ACT.

In Notification No. M-1055, dated the 7th March 1929, the Government of India, Department of Industries and Labour, published regulations restricting the employment of women underground in coal mines in Bengal, Bihar and Orissa and the Central Provinces, and in salt mines in the Punjab; and prohibiting the employment of women underground in all other mines. These regulations came into force on the 1st July 1929; they are reproduced in Appendix IV, Statement No. 3.

In Notification Nos. M-1055 (1) and (2), dated the 13th November 1929, the Governor-General in Council, in pursuance of Regulations 19 and 27 of the *Indian Coal Mines Regulations 1926*, was pleased to direct that in the case of coal mines in Assam, Bengal, Bihar and Orissa and the Central Provinces, the plans required to be kept under regulation 15 or to be sent under regulation 17 of the said regulations, shall, after the 30th June 1930, be prepared by or under the supervision of a surveyor who has been granted a surveyor's certificate under the said Regulations; and that with effect from the same date no person shall be employed as a surveyor in a coal mine in Assam, Bengal, Bihar and Orissa and the Central Provinces unless he holds a surveyor's certificate under the said Regulations.

In Notifications Nos. M-1055 (1) and (2), dated the 13th May 1929, the Government of India, Department of Industries and Labour, published certain amendments to the *Indian Coal and Metalliferous Mines Regulations*. The notifications are reproduced in Appendix IV, Statements Nos. 4 and 5.

In Notification No. M-987, dated the 16th May 1929, issued by the Government of India, Department of Industries and Labour, the approval of the Governor-General in Council was accorded to the recognition, for the purposes of *Coal Mines Regulations 34, 35 and 39*, of the University of Illinois, Urbana, United States of America, in respect of its degree of Bachelor of Science in Mining Engineering (with coal mining option) granted after the 1st January 1913.

In Notifications Nos. 1025-T. Com. and 2993-VII-M-9-Com., dated the 16th September and 26th November 1929, respectively, the Governments of Bengal and Bihar and Orissa made certain amendments to the rules. The amendments are precisely similar. The Government of Bengal Notification is reproduced in Appendix IV, Statement 6.

The Governments of Bombay and the Central Provinces in Notifications Nos. 9156/24 and 3839-1322-XIII, dated the 30th May and 23rd December 1929, respectively, made certain amendments to the rules. The notifications are reproduced in Appendix IV, Statements Nos. 7 and 8.

Under Government Order No. 1755, dated the 16th October 1929, the Government of Madras published a notification making certain amendments to the rules. The Order is reproduced in Appendix IV, Statement No. 9.

Bye-laws were established at sixty-one coal mines.

Owners, agents and managers are informed that official publications in respect of mines are obtainable as follows:—

From the Government of India, Central Publication Branch, 3, Government Place, West, Calcutta:—

- (1) Indian Mines Act, 1923, as amended by the Indian Mines (Amendment) Act, 1923.
- (2) Regulations made under the Act.
- (3) Orders and exemptions made by the Government of India.

From Local Governments, usually from the Superintendent, Government Printing, but in the case of Bengal and Assam from the Secretariat Book Depôt:—

- (1) Abstract of the Act and of the Regulations and Rules made under the Act.
 - (2) Rules and bye-laws made under the Act.
- English, Bengali and Gujrati copies of the bye-laws for coal mines can be obtained from the Bengal Secretariat Book Depôt, and Hindi copies from the Superintendent, Government Printing, Gulzarbagh, Patna.
- (3) Orders made by the Local Government.

Section V.—General Remarks.

VISITS OF THE ROYAL COMMISSION ON LABOUR TO INDIAN MINES.

On October 21st and 22nd the Royal Commission on Labour visited salt mines and coal mines in the Punjab. On 9th December the Commission visited a manganese mine in the Central Provinces, and on 21st December a mica mine and mica factories in Chota Nagpur. On 23rd January 1930 coal mines in the Raniganj coalfield were inspected, after which the members of the Commission moved on to Dhanbad where a week was spent in inspecting mines in the Jharia coalfield and in recording the evidence of employees, representatives of the mine-owners, and Government officials. An excursion was made to a group of Sonthal villages from which coal miners are recruited, and an afternoon was spent in attendance at the annual miners' sports at Kustore colliery. On January 31st a visit was paid to the Giridih coalfield.

HEALTH AND SANITATION.

The Asansol Mines Board of Health held eleven ordinary and five special meetings during the year. Dr. J. W. Tomb was Chief Sanitary Officer up to the 15th May when he resigned after having served the Board with distinction for thirteen years. The post of officiating Chief Sanitary Officer was held by Dr. A. K. Sen from 16th May to 20th December, and by Dr. S. K. Sarkar from 21st December. The population of the Asansol Mining Settlement is 329,353 persons. There were 1,076 cases of cholera with 518 deaths and 354 cases of small-pox with 42 deaths, as compared with 537 cases of cholera with 292 deaths and 143 cases of small-pox with 13 deaths during the year 1928. The death rate was 23·2 per thousand, as compared with 20·9 in 1928 and 16·62 in 1927. The infant mortality rate was 145.

The Jharia Mines Board of Health held twelve ordinary and five special meetings during the year. Dr. J. N. Mitra officiated as Medical Officer of Health up to the 13th May, on which date Dr. C. S. Ryles took over charge. The population of the Jharia Mining Settlement is 453,948 persons. There were 1,428 cases of suspected cholera with 623 deaths, as compared with 678 cases and 203 deaths during the previous year. The total number of deaths from cholera on collieries was 79, as against 36 in the previous year. The increase in the incidence of cholera was due to an epidemic in the rural villages during the period July to September. Owing to the piped system of filtered and chlorinated water supply the outbreak did not affect the collieries, except for a few cases imported from the rural area. There were 1,066 cases of suspected small-pox with 65 deaths, as against 1,541 cases with 56 deaths in the previous year. The death rate was 19·57 per thousand and the birth rate 27·75 per thousand, as compared with 18·28 and 35·47 per thousand, respectively, during the previous year. In the Board's laboratory 324 samples of food were analysed, of which 123 were found to be adulterated. Prosecutions were instituted in the worst cases. The beneficial effect of the Board's campaign against food adulteration is not yet particularly noticeable, but it is perhaps too early to expect appreciable results.

Statistics of rainfall in the eastern coalfield have been recorded as follows:—

	1929	1928
<i>Jharia Coalfield—</i>		
Joalgora	52·95	46·92
Topchanchi reservoir	72·03	55·93
<i>Raniganj Coalfield—</i>		
Kulti	67·04	70·42
<i>Giridih Coalfield—</i>		
Giridih	58·62	58·01

AMBULANCE WORK.

As in former years classes in First-Aid to the injured organised by the Inspectors of Mines were held in the coalfields. At the twenty-two centres in the Jharia coalfield 290 students attended and 214 St. John Ambulance Association first-aid certificates were awarded. The examinations were conducted by Lt.-Col. R. H. Price, I. M. S. (Retired), Drs L. G. deRosario, F. T. Simpson, H. K. Chakrabarty and R. J. Sinha.

In the Raniganj coalfield classes were held at seven centres. 93 students attended, 82 were examined, and 65 obtained certificates. The examiners were Drs. P. C. Biswas, D. N. Tewari, S. N. Majhi, B. Sen Gupta, N. Haque and S. P. Chatterjee.

Instruction in first-aid was also given at coal mines in the Bokaro and Giridih coalfields, at manganese mines in the Central Provinces and elsewhere.

MINING EDUCATION.

At the Indian School of Mines the total number of students on the roll at the commencement of the session 1928-29 was 122, there being 33 in the first year, 50 in the second year and 39 in the third year. In addition two junior officers of the Northern India Salt Revenue Depart-

ment were attached to the School for training. On the results of the examination held at the end of the session 30 students were promoted to the second year and 48 students to the third year. The first Certificate examination of the School was held in July, the total number of candidates who appeared being as follows:—

For the Certificate in Geology	10
For the Certificate in metal mining	8
For the Certificate in coal mining	21

The numbers to whom certificates were awarded were as follows:— Geology 10; Metal mining 8; Coal mining 19. At the commencement of the fourth year in November 1929 the total number of students on the roll was 120. The Mine Surveying camp was pitched at Godhur in the Jharia Coalfield during the months of November and December, and 111 students of the second, third and fourth years were in attendance. Visits and tours of inspection were paid to the Salt Range of the Punjab, Cutch and other places by the geological students, and to Katni limestone quarries and the manganese mines of the Central Provinces by the mining students. The second year students also paid a visit to the mica mines of Kodarma. In addition many visits to collieries were made. The annual prize distribution was held on 30th July 1929 when the prizes were distributed by Mr. A. A. F. Bray, Chairman, Indian Mining Association.

At the Bengal Engineering College the three students in the final class were all successful at the examination for the Diploma in the Principles of Mining. The mining classes at that college were finally abolished with effect from April 1929.

The Mining Education Advisory Board continued to control the three-year courses of evening instruction in mining subjects instituted by the Governments of Bengal and Bihar and Orissa. The lecture centres are at Raniganj and Sitarampur in the Raniganj coalfield, and at Jharia and Sijua in the Jharia coalfield. In the Raniganj coalfield the teaching staff consisted of Mr. L. Millar assisted by Babus Nirmal Chandra Sarkar and Dharendra Nath Sarkar, and in the Jharia coalfield Mr. Griffith Jones assisted by Babus Umapati Prasad and Basanta Kumar Palit up to the close of the session ending in April 1929. Messrs. Millar and Griffith Jones having resigned their appointments they were from the commencement of the 1929-30 session succeeded by Messrs. Niranjan Ghose, lecturer, Raniganj coalfield, and Hemanta Kumar Nag, lecturer, Jharia coalfield. During the session 1928-29 the total number of students enrolled was 124, of whom 71 attended the classes of the third stage. Of these 71 students 14 attended the final examination and 7 were successful. The examiners were Dr. D. Penman and Mr. W. Kirby. Courses of ten lectures were delivered in Hindi to overmen and sirdars at six centres in the Jharia coalfield and at one centre in the Raniganj coalfield. Similar lectures in Bengali were delivered at six centres in the Raniganj coalfield. The lecturers were Babus S. M. Bhattacharjee, B. K. Bose, P. R. Chakravarty, S. K. Ghose, P. Chakravarty, J. G. Banerjee and D. P. Naug. Special demonstrations in gas testing were given by the mining lecturers at the Jharia and Sitarampur lecture halls.

MINING AND GEOLOGICAL INSTITUTE OF INDIA.

The total membership, including subscribers, of the Mining and Geological Institute of India at the close of the year was 325. In addition to the annual meeting three ordinary general meetings were held for the reading and discussion of papers, whilst one meeting took the form of a lantern lecture. Excursions were made to the Indian Iron and Steel Company, Limited's iron ore mines at Gua in the Singhbhum district, to the Kargali colliery of the Indian State Railways in the Bokaro coalfield, to Messrs. F. F. Chrestien and Company's mica mines in the Kodarma forest area, Hazaribagh, and to the Bengal Nagpur Railway Company's Argada colliery in the Southern Karanpura coalfield.

Three parts of the Transactions were published. The Government prize for the best paper published during the year was awarded to Mr. F. B. Kerridge for his paper on "The Working and Refining of Indian Kaolin with special reference to a Singhbhum Deposit". Mr. Kerridge also received the Institute gold medal for the same paper. The Institute silver medal was awarded to Mr. H. Cecil Jones for his paper "Note on a Visit to the Iron Ore Area of Lake Superior, United States of America", whilst the Institute bronze medal was awarded to Captain B. V. Mellon for his paper on "Steel Roof Supports at Balaghat manganese mine". Mr. J. Mackie represented the Institute on the Governing Body of the Indian School of Mines, and Mr. L. Diamond on the Council of the Institute of Fuel, London, Mr. J. Thomas continued to serve on the Coal Dust Committee.

The Subsidence Committee whose appointment was mentioned in last year's report met five times during the year. A questionnaire was drawn up and circulated to colliery managers through the agents and general managers of the various colliery companies, whilst the Indian Mining Association, the Indian Mining Federation, the Colliery Managers Association, and the Indian Mine Managers Association were invited to appoint representatives to co-operate with the Committee in their investigations. The Indian Mining Association appointed Mr. J. Thomas; the Colliery Managers Association, Mr. B. Starks Field; and the Indian Mine Managers Association, Mr. B. K. Bose.

THE ASSOCIATION OF COLLIERY MANAGERS IN INDIA; THE INDIAN MINE MANAGERS ASSOCIATION; AND THE INDIAN COLLIERY EMPLOYEES ASSOCIATION.

The number of members of the Association of Colliery Managers in India during the year was 92. Some of the subjects dealt with by the Council were:—(1) restriction of the employment of women underground; (2) representation on the Mines Boards of Health; (3) amendments to the mine regulations; (4) education and training of subordinate officials; (5) maternity and child welfare schemes; (6) Royal Commission on Labour in India. Messrs. T. Morrison and D. W. Baron represented the Association on the Railways and Collieries Advisory Board. At one of the meetings Mr. A. Farquhar delivered an address entitled "Some Notes of Recent Developments in the Coalfields with reference to Education and Legislation". Visits were paid to Argada colliery and to the Calcutta Docks.

The membership of the Indian Mine Managers Association increased from 137 to 166 during the year. Among the subjects dealt with by the Council were:—(1) Memorandum for the Royal Commission on Labour; (2) child welfare and maternity schemes; (3) basis for the allotment of wagons to collieries; (4) unemployment; (5) surface subsidences in the coalfields.

The Secretary of the Indian Colliery Employees Association, Jharía, reported that up to the end of the year 1929 the Association had not been registered under the Indian Trade Unions Act, 1926, and that owing to internal dissensions the organisation had made little, if any, progress. He intimated that the number of members was about the same as in the previous year, and that provision was to be made for the reservation of seats (on the Council) for manual workers. One of the demands of the Association is "a general increase of at least fifty per cent. of wages", and another is a reduction of the working hours to eight hours per day.

MINING BOARDS IN BENGAL, BIHAR AND ORISSA AND THE CENTRAL PROVINCES.

The Bengal Mining Board held only one meeting during the year. Among the subjects discussed at the meeting and by correspondence were (a) proposed new rule under the Bengal Mining Settlements Act, 1912, requiring the production of copies of title deeds by the new proprietor when a mine changes hands; (b) draft rules permitting representation of interests concerned before Courts appointed under Section 21 of the Indian Mines Act, 1923, to enquire into accidents in mines; and (c) the rules for coal mines made under Section 30 of the Indian Mines Act, 1923, amendment of the form of register of work persons to be maintained under Section 28. The non-official members of the Board were Messrs. P. S. Keelan, C.I.E., Bhudev Prasanna Mukherjee, A. L. Ojha, M.L.C. and Mr. H. M. Tarlton.

No meetings of the Bihar and Orissa Mining Board for coal mines were held. Among the subjects dealt with by correspondence was the proposed amendment of the form of register of work persons to be maintained under Section 28 of the Indian Mines Act, 1923. The non-official members of the Board were Messrs. J. B. Argyle, A. L. Ojha, M.L.C. and J. Mackie.

No meeting of the Bihar and Orissa Mining Board for mines other than coal was held, the business being dealt with by correspondence. The non-official members of the Board were Messrs. G. A. Young and G. G. Dobbs.

The Central Provinces Mining Board did not meet during the year, the business being dealt with by correspondence. The non-official members of the Board were Messrs. L. H. Bartlett, R. S. Davies and Rai Sahib Mathura Prasad.

COAL-DUST COMMITTEE.

The work of the Coal-Dust Committee was continued throughout the year. A series of experiments was carried out at the Indian School of Mines on the ignition of a coal-dust-air cloud by electric arcs. It was shown that it was possible to produce by this means inflammations of dusts from Indian coal seams. The Second Report of the Coal-Dust

Committee was published during the year and copies were distributed to owners, agents and managers of coal mines.

BOARD OF EXAMINERS.

Eight meetings of the Board of Examiners were held during the year. The non-official members were Messrs. J. Mackie, N. N. Sarkar and J. B. Waidlaw. The local examiners appointed were Messrs. A. Farquhar and J. E. Phelps for coal mine managers' first class certificates, Messrs. J. G. Cunningham, J. D. B. Allen, S. M. Chatterjee and W. Robb for coal mine managers' second class certificates, and Mr. Alex. R. Roy for coal mine surveyors' certificates. Messrs. J. H. Lang, W. Kirby and N. Barraclough, Inspectors of Mines, were the official examiners, and acted as secretaries.

Six first class and two second class certificates of competency were granted in lieu of British certificates of the same class. At the examinations for coal mine managers' certificates held at Dhanbad in February 66 candidates sat for first class certificates and 98 for second class certificates. Four first class and nine second class certificates were granted. At the examination for coal mine surveyors' certificates of competency held at Dhanbad in November there were forty-three candidates of whom seven were successful.

Three hundred and fifty-three persons attended examinations for coal mine sirdars' certificates of competency and 251 certificates were granted. Out of 349 holders of sirdars' certificates examined in gas testing 183 were successful and their certificates were duly endorsed to that effect. Two sirdars' certificates were granted in lieu of British certificates of the same class. Under Coal Mines Regulation 49 the certificates of four sirdars were suspended, each for six months.

OFFICIAL DUTIES, 1929.

Mr. R. R. Simpson, Chief Inspector, was on leave from 3rd May to 2nd November.

Mr. J. H. Lang, Inspector, No. 2 Circle, officiated as Chief Inspector from 3rd May to 2nd November.

Mr. W. Kirby, Inspector, held charge of No. 1 Circle, throughout the year.

Mr. N. Barraclough, Inspector, held charge of No. 2 Circle, from 3rd May to 2nd November.

Mr. H. M. Mitra, Electric Inspector, was on leave from 21st January to 12th February, and again from 4th May to 18th July.

Mr. G. S. Cameron and Mr. N. G. Chatterjee, Junior Inspectors, were on duty throughout the year.

Mr. J. F. Waters, Junior Inspector, was on leave from 27th April to 30th October.

Mr. H. K. Chatterjee, Junior Inspector, was on leave from 19th May.

Mr. A. Young, Junior Inspector, was on duty throughout the year.

The number of coal mines worked during the year was 548, as compared with 556 in 1928. The number of metalliferous (including stone) mines at work increased from 601 in 1923 to 1,393 in 1928. In 1929 the number was 1,184, the decrease being due to the closing down of many mica, manganese and tin mines.

During the year 1,016 mines were inspected and many of them several times. 2,388 separate inspections were made. The cause and circumstances of practically all fatal accidents, serious accidents of importance, and all complaints of breaches of regulations and rules were investigated. Many inspections were made on the invitation of mine-owners, superintendents or managers desirous of obtaining advice on safety matters. An increasing proportion of the time of Inspectors is occupied in investigating cases of actual or threatened damage to dwelling houses and roads by reason of the underground workings of coal mines.

Orders were issued as follows:—

Section, Regulation or Rule.	No. of orders.
Under Section 19 (2)	3
Under Coal Mines Regulation 23	6
Under Coal Mines Regulation 76 (2)	2
Under Coal Mines Regulation 106	1
Under Coal Mines Regulation 93	1
Under Rule 14-A. of the Rules made by the Governments of Bengal and Bihar and Orissa	16

Exemptions, partial or complete, and permissions were granted as follows:—

Regulation	No of cases
Under Coal Mines Regulation 53	4
Under Coal Mines Regulation 88	4
Under Coal Mines Regulation 116	1

In a circular, dated 14th November 1929, approval for use in coal mines in British India was accorded to (a) all safety lamps mentioned in the list of safety lamps approved in pursuance of Section 33 of the Coal Mines Act, 1911, (Great Britain) as amended by the Coal Mines General Regulations (Safety Lamps), 1927, and described in the schedules to the various safety lamps orders made under that section; and (b) the American Everready Safety Flash light (No. 2695) approved by the Bureau of Mines, United States of America, and carrying the approval label of that authority.

Information was received of two cases of fires in coal stocks on the surface, fifteen underground fires, five collapses of underground workings and two irruptions of water into mines.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1929 stood at 602, sixteen of which were cases disposed of during the year. There were eleven applications for modifications of restrictions and eleven complaints of violations of restrictions, all of which were dealt with. The Act applies to Bengal and Bihar and Orissa only. In other provinces where Government owns the minerals, Local Governments were advised as to the restrictions necessary in cases where mine-owners have sought permission to work minerals beneath railways, villages, etc.

I have the honour to be,

SIR,

Your most obedient servant,

R. R. SIMPSON,

Chief Inspector of Mines in India.

DIX I. AND MINERALS.

No. I.
year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface						Grand Total.
Overmen and Sirdars	Males					Females.	Total Males and Females		Males.				Females	Total Males and Females.	
	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour.	Total Males.				Clerical and superintending staff	Skilled labour	Unskilled labour	Total Males			
A.L.															
8	81	108	110	277	547	262	909	2,631	33	167	463	663	164	879	3,453
...	..	..	..	..	..	..	..	614	14	66	151	231	..	251	875
8	81	164	116	277	547	302	909	3,008	63	233	611	870	164	1,000	4,128
...	..	..	..	..	..	..	..	66	6	17	22	..	..	..	108
..	..	..	..	..	..	..	..	74	1	17	13	33	..	30	104
..	..	..	..	..	..	..	..	100	1	21	29	..	..	..	112
1	3	..	..	5	9	7	16	143	17	7	1	24	6	33	178
...	...	...	..	..	..	..	..	9	..	1	3	4	7	11	33
8	120	8	43	374	503	617	1,100	30,438	1,400	3,221	5,297	9,931	2,506	13,947	44,105
9	143	8	43	379	591	624	1,215	30,712	1,626	3,243	5,211	9,940	2,611	13,191	44,302
10	93	28	..	31	148	81	270	6,160	143	428	983	1,409	803	2,074	7,234
81	608	68	..	391	1,102	773	1,875	48,879	1,467	4,719	11,121	17,727	6,439	24,216	70,705
..	..	..	..	..	..	..	..	291	37	..	61	132	71	274	805
130	3,100	870	170	2,623	6,633	5,620	12,443	13,630	143	616	1,343	2,301	430	2,731	16,390
5	111	21	4	3	141	134	275	7,343	100	193	1,341	1,639	867	2,196	9,479
1	407	200	..	430	1,236	442	1,778	2,497	73	179	435	627	192	840	2,445
...	...	..	..	..	..	..	..	7	3	2	6	9	3	17	..
1	3	..	..	..	4	3	7	7	..	..	..	..	..	..	7
..	16	4	1	3	24	..	24	44	3	..	11	13	3	13	..
183	4,627	947	233	2,458	8,317	7,057	16,374	75,017	2,389	6,217	13,463	24,063	8,224	32,222	107,329

DIX I.

AND MINERALS.

No. I.
year 1929 at mines under the Indian Mines Act.

persons employed daily to and about the mines

Open workings								Total Underground and open workings	Surface						Grand Total.
Males.							Males				Females	Total Males and females.			
Oreman and blenders	Coal-cutters	Loaders.	Other skilled labour	Other unskilled labour.	Total Males.	Females	Clerical and superintending staff		Skilled labour	Unskilled labour.			Total Males		
A.L.															
6	11	105	116	277	647	203	900	3,674	35	167	469	663	164	879	3,453
...	...	...	...	...	...	...	...	454	14	66	161	231	...	231	675
8	81	105	110	277	647	362	909	3,668	62	233	611	890	164	1,060	4,128
...	...	...	...	...	...	...	...	86	...	6	17	22	...	33	108
...	...	...	...	...	...	...	...	74	1	17	13	33	...	30	104
...	...	...	...	...	...	...	...	100	1	22	20	32	...	33	213
1	3	...	...	8	9	7	16	143	17	7	1	25	8	33	178
...	...	...	...	...	...	...	...	9	...	1	3	6	7	11	30
8	150	8	12	874	883	617	1,490	30,858	1,870	3,333	5,207	9,811	3,876	13,687	44,195
9	143	8	13	379	531	626	1,215	30,713	1,836	3,243	6,311	9,940	3,611	13,551	44,303
10	93	28	75	30	126	61	270	6,160	168	429	983	1,569	803	2,372	7,234
33	605	68	43	381	1,103	773	1,876	45,879	1,867	4,750	11,121	17,727	6,439	24,216	70,963
...	...	...	...	...	...	...	...	281	37	33	61	123	...	274	305
126	3,190	800	170	3,623	6,835	5,630	12,465	12,630	143	616	1,342	2,301	430	2,731	16,200
3	111	31	4	3	141	134	275	7,353	100	193	1,341	1,639	257	2,196	9,579
1	407	300	99	616	1,226	442	1,678	2,297	73	179	405	657	192	849	2,446
...	...	...	...	...	...	...	...	7	3	2	6	8	8	17	24
1	3	...	...	...	4	3	7	7	...	...	...	...	...	...	...
...	16	6	1	3	26	...	26	44	2	...	11	13	8	13	...
163	4,627	947	225	3,452	8,817	7,067	16,574	73,017	2,355	6,217	15,453	24,063	8,224	32,287	107,302

STATISTICS OF MINES

Table

Number of workmen and output of minerals during the

Provinces	District and Mineral field	Total Output.	Average number of							
			Underground.						Females.	Total Males and Females.
			Males.							
			Overmen and Stickers.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
Assam	Lakhimpur	Tons. 163,967	63	338	410	278	606	1,713	...	1,713
	Naga Hills	38,553	18	54	66	33	303	444	...	444
	Total	321,545	101	392	496	361	809	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,831	9	30	46	1	...	86	...	86
	Si-Mi Khosht	3,163	7	28	19	...	...	74	...	74
	Total	10,994	16	68	75	1	...	160	...	160
Bengal	Bankura	9,379	5	48	17	3	33	97	33	120
	Birbhum	867	2	3	3	...	1	8	1	9
	Burdwan	5,934,838	834	11,819	3,769	3,113	4,301	22,668	6,704	29,339
	Total	6,968,104	841	11,870	2,818	3,114	4,327	23,675	6,827	39,497
Bihar and Orissa	Manbhum— Raniganj coalfield (part of)	780,836	111	2,083	206	383	947	3,330	1,070	4,690
	Jharla	10,732,358	1,243	16,928	5,033	4,365	5,633	23,180	10,574	44,004
	Hazaribagh— Jharla coalfield (part of)	53,390	9	116	23	30	43	213	33	281
	Bokaro	2,118,703	33	853	146	68	122	941	273	1,214
	Giridih	771,165	337	2,753	1,401	173	624	5,477	1,631	7,108
	Karainpura (part of)	467,030	13	426	167	44	50	700	219	919
	Banchi— Karainpura coalfield (part of)	97	1	2	2	...	1	6	1	7
	Palamau— Daltonganj coalfield	1,832	...	...	...	...	...	...	...	...
	Huter	357	2	10	2	3	...	17	3	20
	Carried over	14,934,435	1,639	22,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface						Grand Total.
Males							Males				Total Males and Females.				
Overmen and Birds	Coal-cutters	Loaders.	Other skilled labour	Other unskilled, labour	Total Males.	Females	Clerical and superintending staff		Unskilled labour	Total Males		Females			
A.L.															
8	81	105	110	227	617	202	900	2,024	33	167	463	655	101	819	3,453
"	"	"	"	"	"	"	"	464	14	00	101	231	"	231	675
8	81	105	110	227	617	202	900	3,009	62	223	611	876	101	1,000	4,128
"	"	"	"	"	"	"	"	74	1	17	18	33	"	31	108
"	"	"	"	"	"	"	"	100	1	22	29	31	"	32	212
1	3	"	"	5	9	2	10	145	17	2	18	8	25	33	178
"	"	"	"	"	"	"	"	9	"	1	3	4	7	11	23
8	150	8	43	374	532	617	1,100	30,638	1,800	3,223	8,507	9,911	3,506	13,447	44,106
9	163	"	43	379	591	624	1,215	30,712	1,826	3,243	8,511	9,940	3,611	13,561	44,303
10	91	26	33	31	181	85	270	5,160	163	428	963	1,509	605	2,074	7,234
53	008	68	33	331	1,102	773	1,875	45,979	1,567	4,769	11,121	17,717	6,489	24,210	70,995
"	"	"	"	"	"	"	"	231	37	31	61	133	71	224	605
130	3,790	800	123	2,623	6,633	5,620	12,445	12,630	145	616	1,343	2,301	430	2,731	16,390
5	111	21	6	2	141	134	275	7,383	100	193	1,341	1,639	257	2,196	9,279
1	617	300	10	436	1,270	412	1,772	2,197	78	179	435	627	192	840	2,440
"	"	"	"	"	"	"	"	7	3	2	4	9	8	17	22
1	3	"	"	"	4	3	7	7	"	"	"	"	"	"	7
"	18	6	1	3	24	"	24	44	3	"	11	12	3	14	49
193	4,627	947	238	3,452	9,317	7,057	16,574	75,017	3,388	4,217	12,463	24,063	2,264	22,222	107,229

STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province	District and Mineral Field	Total Output.	Average number of							
			Underground.							
			Males.						Females.	Total Males and Females.
			Overmen and Siders	Coal-cutters	Loaders	Other skilled labour.	Other unskilled labour.	Total Males.		
Assam	Lakhimpur . . . Naga Hills . . . Total . . .	Tons. 163,967 58,568 321,545	88 18 101	338 64 392	410 55 466	278 83 361	606 203 809	1,718 444 2,169	—	CO 1,718 444 2,169
Baluchistan	Quetta-Pishin . . . Sibi-Khost . . . Total . . .	7,831 2,163 10,094	9 7 16	20 28 68	46 29 75	1 ... 1	86 74 160	86 74 160
Bengal	Bankura } Birbhum } Durdwan } Total	Raniganj coalfield { 9,379 867 5,934,858 5,945,104	5 2 834 841	48 3 11,519 11,570	17 2 2,799 2,818	2 ... 3,112 3,114	22 1 4,301 4,327	97 8 21,505 22,670	27 1 6,794 6,927	129 9 29,359 30,497
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of) Jharia .. Manabagh— Jharia coalfield (part of) Bokaro = Giridih .. Karanpura = (part of) Ranchi— Karanpura coalfield (part of) Palamau— Daltonganj coalfield Hunter .. Carried over	780,836 10,732,355 53,390 2,118,703 771,165 467,030 97 1,522 257 14,934,455	111 1,243 0 23 227 13 1 — 2 1,633	2,082 16,928 115 553 2,782 426 2 — 10 22,887	226 5,022 23 146 1,401 167 2 . 2 7,058	383 4,385 29 68 173 22 . . 3 5,063	947 5,632 21 122 924 20 1 .. 7,722	3,820 33,180 212 941 5,477 700 8 .. 44,353	1,070 10,824 89 273 1,631 219 1 3 14,000	4,890 41,004 241 1,214 7,106 919 7 .. 20 58,443

DIX I.

AND MINERALS.

No. I.
year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines.

Open workings.								Total Underground and Open workings.	Surface.						Grand Total.
Overmen and Stokers.	Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Coalcutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and superintending staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L.															
8	81	108	110	277	647	202	900	2,671	83	167	660	863	101	819	3,423
"	"	"	"	"	"	"	"	414	14	66	181	231	"	231	675
8	81	108	110	277	647	202	900	3,068	82	233	611	890	101	1,000	4,128
"	"	"	"	"	"	"	"	86	"	8	17	23	"	"	108
"	"	"	"	"	"	"	"	74	1	17	18	30	"	30	104
"	"	"	"	"	"	"	"	160	1	23	20	63	"	63	212
1	8	"	"	8	9	7	16	145	17	7	1	26	8	33	178
"	"	"	"	"	"	"	"	9	"	1	3	4	7	11	30
8	120	8	43	274	523	617	1,199	30,858	1,800	3,235	8,207	9,851	3,896	13,847	44,106
9	163	8	43	379	801	674	1,215	30,713	1,836	3,243	8,211	9,870	3,611	13,881	44,300
10	92	28	33	39	163	65	270	8,160	163	628	948	1,669	605	2,274	7,254
83	608	68	43	391	1,103	773	1,875	43,679	1,867	4,750	11,121	17,727	6,439	24,216	70,065
"	"	"	"	"	"	"	"	291	37	25	81	153	71	224	605
136	3,300	800	127	3,153	6,653	5,620	12,445	13,639	143	616	1,543	2,301	620	2,921	16,390
3	111	11	4	3	129	134	273	7,363	100	193	1,361	1,659	257	2,196	9,379
1	617	300	06	610	1,226	442	1,678	2,107	73	179	435	657	192	840	3,440
"	"	"	"	"	"	"	"	7	3	2	4	9	8	17	26
1	8	"	"	"	4	3	7	7	"	"	"	"	"	"	7
"	16	4	1	3	24	"	24	44	3	"	11	11	3	13	29
193	4,617	647	295	3,432	9,317	7,057	16,574	75,017	2,358	6,217	12,423	14,063	6,254	22,322	

DIX I. AND MINERALS.

No. I.
year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Surface.								Grand Total.
Males.							Total Underground and open workings.	Males.				Females.	Total Males and Females.			
Overmen and Boyards	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour.	Total Males.	Females		Total Males and Females	Clerical and supervising staff.	Skilled labour	Unskilled labour.			Total Males.		
A.L.																
8	61	105	116	277	647	202	909	3,034	33	167	463	663	164	819	3,423	
"	"	"	"	"	"	"	"	444	14	66	151	231	"	231	875	
8	III	105	116	277	647	303	909	3,068	65	233	611	906	104	1,000	4,128	
"	"	"	"	"	"	"	"	66	"	6	17	31	"	31	108	
"	"	"	"	"	"	"	"	76	1	17	13	30	"	30	104	
"	"	"	"	"	"	"	"	100	1	22	28	32	"	32	212	
1	3	"	"	8	9	11	16	145	17	7	1	25	8	33	178	
"	"	"	"	"	"	"	"	9	"	1	3	4	11	11	30	
8	150	8	42	374	853	617	1,190	30,858	1,800	2,235	8,207	9,931	2,698	12,629	44,106	
9	183	8	42	379	891	624	1,215	30,712	1,836	2,243	8,211	9,940	2,611	12,551	44,303	
10	92	88	82	39	125	83	270	8,160	168	428	888	1,484	605	2,074	7,254	
11	608	68	82	331	1,103	773	1,873	48,079	1,847	4,750	11,121	17,717	6,439	24,316	70,795	
"	"	"	"	"	"	"	"	291	37	23	81	183	71	274	305	
120	3,190	800	127	2,423	6,635	8,620	12,445	13,650	143	616	1,343	2,301	430	3,731	16,200	
3	111	31	4	2	141	184	373	7,335	100	193	1,341	1,639	337	2,196	9,179	
1	407	303	94	816	1,236	412	1,678	2,497	73	179	435	657	192	840	2,446	
"	"	"	"	"	"	"	"	7	3	2	6	9	4	11	31	
1	3	"	"	"	"	4	3	7	7	"	"	"	"	"	7	
"	16	4	1	3	28	"	26	44	3	"	11	13	3	18	48	
193	4,617	947	125	3,452	9,517	7,667	16,574	75,017	2,339	6,217	15,423	24,063	8,224			

APPENDIX
STATISTICS OF MINES

Table
Number of workmen and output of minerals during the

		Average number of								
		Underground								
Province	District and Mineral field	Total Output.	Males					Females	Total Males and Females	
			Greenstone and slates,	Coal mines,	Ironstone,	Office skilled labour,	Other unskilled labour,			Total Males.
		Tons								CO
Brought forward		14,524,425	1,828	22,877	7,068	5,068	7,723	44,533	14,080	88,443
Bihar and Orissa—cont.	Samalgarh—Bhagpur	26,374	0	40	43	41	—	123	23	167
	South Parganas—									
	Jahly	41,728	13	114	23	45	34	271	24	295
	Esplanad coalfield (part CO.)	21,123	16	217	—	84	81	349	73	422
Total		15,023,674	1,857	23,201	7,135	5,198	7,839	45,186	14,210	89,321
Central Pro- vinces.	Chanda	2,2,092	33	691	336	136	274	1,440	158	1,808
	Chhindwara	69,379	77	1,764	854	383	338	3,099	676	3,775
	Total	882,321	110	2,455	1,190	529	612	4,539	834	5,373
Punjab .	Jhelum	20,808	31	121	23	33	60	268	—	268
	Mianwah	12,064	6	43	25	6	17	107	—	107
	Shahpur	3,808	—	17	—	—	—	17	—	17
	Total	43,176	37	181	48	39	77	382	—	399
Grand Total (Coal) for 1929.		21,708,174	2,771	37,922	11,472	9,193	13,846	73,072	21,860	94,932
Ratio of preceding year.		21,315,798	2,623	36,409	8,629	8,777	12,780	63,737	20,408	84,145
Difference		+392,376	+148	+1,513	+2,843	+416	+1,066	+9,335	+1,452	+10,787

DIX I.

AND MINERALS.

No. I.
year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings								Total Underground and Open workings	Surface.						Grand Total.
Overmen and firemen	Coal-cutters	Males			Total Males	Females	Total Males and Females.		Males				Females	Total Males and Females.	
		Loaders	Other skilled labour	Other unskilled labour					Clerical and superintending staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L.															
8	81	105	118	277	817	263	900	2,624	33	167	663	863	104	879	2,423
.	.	.	"	.	.	.	.	444	14	66	151	231	...	231	871
8	81	104	116	277	847	263	900	3,068	62	233	611	876	104	1,000	4,128
.	.	.	.	.	.	.	.	50	..	8	17	25	...	22	108
.	.	.	.	.	.	.	...	74	1	17	12	30	.	30	104
..	.	.	.	.	.	..	..	100	1	22	29	63	...	62	212
1	3	.	.	5	9	7	19	145	17	7	1	25	8	33	178
.	.	...	.	..	..	..	...	9	...	1	3	4	7	11	23
8	100	8	43	874	882	817	1,199	20,356	1,800	3,225	5,207	9,031	2,876	12,847	44,176
9	183	8	44	379	501	674	1,215	20,712	1,896	3,245	5,211	9,046	2,611	12,581	44,303
11	98	22	25	31	125	81	270	8,180	163	428	988	1,569	805	2,374	7,334
11	602	69	43	331	1,103	773	1,675	45,879	1,847	4,750	11,121	17,717	6,429	74,210	70,945
...	...	...	...	...	...	...	...	231	37	25	21	123	71	274	605
120	2,190	540	177	2,423	6,833	8,650	12,445	12,629	143	616	1,563	2,301	629	2,721	16,390
3	111	21	4	2	141	134	275	7,343	100	195	1,541	1,639	257	2,196	9,679
1	417	201	95	416	1,220	442	1,678	2,897	73	179	435	657	192	849	2,146
..	..	..	..	..	..	..	..	7	3	2	4	9	8	17	11
1	3	.	..	..	4	3	7	7	..	..	..	..	..	..	7
.	18	4	1	3	26	.	24	44	2	..	11	13	3	15	69
123	4,627	947	293	3,432	9,517	7,057	16,574	72,017	2,356	6,217	15,423	24,063	2,254	22,222	107,279

DIX I.

AND MINERALS.

No. I.

year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and open workings.	Surface.						Grand Total.
Males.						Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Overmen and Sirdars	Coal-enginers	Loaders	Other skilled labour.	Other unskilled labour	Total Males.				Clerical and superintending staff.	Skilled labour	Unskilled labour.	Total Males.			
A.L.															
8	88	105	116	277	647	202	809	3,624	33	167	463	663	164	819	3,423
...	...	...	...	...	...	...	...	415	14	60	191	231	...	231	675
8	81	168	110	277	647	302	890	3,008	63	233	611	896	104	1,000	4,128
...	...	...	...	...	...	...	...	66	...	8	17	23	...	23	103
...	...	...	...	...	...	...	...	74	1	17	13	29	...	30	104
...	...	...	...	...	...	...	...	100	1	21	29	53	...	53	213
1	3	...	...	3	9	7	16	145	17	7	1	25	8	88	178
...	...	...	...	...	...	...	...	9	...	1	3	4	7	11	33
8	150	8	43	374	582	617	1,199	30,858	1,809	3,333	6,207	9,951	3,396	13,347	44,106
9	163	8	43	379	601	674	1,215	30,713	1,830	3,243	6,211	9,940	3,611	13,551	44,303
88	92	88	25	88	193	88	270	5,160	163	428	983	1,569	605	2,074	7,234
53	608	63	43	631	1,302	773	2,075	48,879	1,847	4,738	11,121	17,717	6,439	24,216	70,095
...	...	...	...	...	...	...	...	291	37	25	88	133	71	214	605
120	3,100	800	120	3,120	6,633	5,630	12,443	13,630	143	616	1,543	2,301	430	2,731	16,396
3	111	21	6	3	141	134	275	7,383	100	193	1,341	1,639	157	2,196	9,679
1	617	301	96	436	1,230	442	1,778	2,107	78	179	405	657	192	849	3,440
...	...	...	...	...	...	...	...	7	3	2	4	9	8	17	88
1	3	...	...	...	4	3	7	7	...	...	...	...	...	...	7
...	88	4	1	3	88	...	24	64	3	...	21	13	3	13	88
163	4,627	947	223	3,452	8,817	7,067	16,374	75,017	3,338	8,237	18,483	24,063	8,234	32,222	107,339

APPENDIX STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of							
			Underground,						Females.	Total Males and Females.
			Males.							
			Overmen and Sirdars.	Coal-cutters	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males		
Assam	Lakhimpur	Tons 162,967	83	333	410	278	605	1,715	...	1,715
	Naga Hills	58,558	18	84	56	83	303	444	...	444
	Total	331,545	101	292	496	361	800	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,831	9	30	46	1	..	86	...	86
	Sibi Khort	8,163	7	38	19	...	...	74	...	74
	Total	10,994	16	68	75	1	...	160	...	160
Bengal	Bankura	9,879	5	48	17	2	28	97	32	129
	Birbhum	967	2	3	3	..	1	8	1	9
	Durdwan	6,954,858	834	11,619	2,799	3,112	4,301	21,665	6,794	28,359
	Total	8,965,104	841	11,670	2,818	3,116	4,327	22,670	6,827	29,497
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	789,636	111	1,062	208	343	847	3,820	1,070	4,890
	Jharla ..	10,732,333	1,243	16,028	5,022	4,345	5,632	33,180	10,124	44,004
	Manabibagh— Jharla coalfield (part of)	63,900	9	118	22	20	21	312	60	281
	Bokaro ..	2,119,703	23	552	166	68	122	941	273	1,214
	Guridih ..	771,168	237	2,752	1,401	173	924	5,477	1,631	7,108
	Karaupura .. (part of)	467,690	13	426	167	44	20	700	219	919
	Banchi— Karaupura coalfield (part of)	27	1	2	2	..	1	8	1	9
	Palamanu— Dakongarj coalfield	1,632	..	..	..	..	..	..	..	..
	Hatar ..	357	2	10	2	3	...	17	3	20
	Carried over	14,954,455	1,839	21,867	7,058	8,065	7,721	44,353	14,000	58,443

DIX I.

AND MINERALS.

No. I.
year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface.						Grand Total.
Overmen and Bardas	Coal-cutters	Males				Total Males and Females	Males				Total Males and Females				
		Loaders	Other skilled labour	Other unskilled labour.	Total Males.		Chief and superintending staff		Skilled labour	Unskilled labour		Total Males			
A.L.															
8	81	165	110	277	647	202	909	3,031	33	167	660	665	161	879	3,453
...	..	..	..	..	..	..	..	444	24	60	151	231	...	231	873
8	81	165	110	277	647	302	909	8,006	63	233	611	896	161	1,000	4,128
...	..	..	..	..	..	..	..	66	..	8	17	23	...	33	108
..	..	..	..	..	..	..	..	74	1	17	12	30	...	30	104
..	..	..	..	..	..	..	..	160	1	31	10	52	...	52	312
2	3	..	..	8	9	7	16	245	17	2	3	25	8	33	178
...	..	..	..	..	..	..	..	9	..	1	3	4	..	11	30
8	150	8	42	874	882	617	1,100	30,658	1,600	2,233	8,207	9,951	8,806	12,847	44,796
9	183	8	42	875	891	624	1,215	30,712	1,636	2,243	8,211	9,960	8,811	12,861	44,803
10	91	88	25	53	188	85	270	8,160	153	429	985	1,600	808	2,071	7,254
53	608	68	43	891	1,102	773	1,875	45,879	1,847	4,750	11,121	17,717	6,499	24,216	70,065
...	..	..	..	..	..	..	..	231	37	95	81	132	71	274	803
126	3,190	610	129	3,059	6,835	5,620	12,445	13,630	143	616	1,842	2,301	430	2,731	14,390
3	111	21	4	3	141	134	275	7,885	100	109	1,341	1,639	657	2,196	9,079
1	407	206	88	496	1,230	442	1,678	2,897	88	179	435	657	192	847	2,446
...	..	..	..	..	..	..	..	..	3	2	4	8	8	17	24
1	3	..	..	..	4	3	7	7	..	..	..	..	..	..	7
..	28	4	1	3	26	..	26	44	2	..	11	13	3	14	19
193	4,627	947	295	3,452	8,317	7,057	16,374	75,017	2,358	6,217	18,483	21,063	8,254	21,222	107,339

STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of						
			Underground.						Total Males and Females.
			Males.						
			Oreman and Siders	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	
Assam	Lakhimpur	Tons 162,987	83	333	410	278	606	1,715	1,715
	Naga Hills	18,558	18	84	86	83	303	444	444
	Total	321,545	101	392	496	361	909	2,159	2,159
Baluchistan	Quetta-Pishin	7,331	9	30	46	1	...	86	86
	Fort Khust	8,363	7	28	29	...	...	74	74
	Total	10,994	16	68	75	1	...	160	160
Bengal	Bankura	9,379	6	48	17	3	28	97	129
	Birbhum	967	2	3	3	...	1	8	9
	Durdwan	5,934,868	834	11,519	2,799	3,113	4,301	22,665	29,310
	Total	5,965,104	841	11,570	2,818	3,116	4,327	22,670	29,407
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	789,836	111	2,082	295	343	947	3,820	4,800
	Jharia	10,732,355	1,243	16,928	8,023	4,355	6,632	33,180	44,004
	Hazaribagh— Jharia coalfield (part of)	54,390	9	116	23	20	43	212	261
	Bokaro	2,119,703	23	653	146	58	122	941	2,314
	Giridih	171,165	237	2,752	1,601	173	924	5,477	7,108
	Karapurna = (part of)	467,030	13	420	167	88	80	700	919
	Ranchi— Karapurna coalfield (part of)	27	1	2	3	...	1	6	7
	Palamau— Daltonganj coalfield	1,632	...	...	...	...	...	...	...
	Hutur	357	3	10	2	3	...	17	20
	Carried over	14,934,435	1,633	22,867	7,058	5,068	7,721	44,333	58,443

DIX I.

AND MINERALS.

No. I.

year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings								Total Underground and Open workings	Surface.						Grand Total.
Overmen and Burdens	Males						Total Males and Females.		Males.				Females.	Total Males and Females.	
	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour	Total Males	Females			Clerical and superintending staff	Unskilled labour	Skilled labour	Total Males.			
A.L.															
8	81	105	116	277	647	203	900	3,021	39	167	460	663	164	879	3,453
"	"	"	"	"	"	"	"	461	14	66	151	231	"	231	878
8	81	105	116	277	647	203	900	3,008	63	233	611	906	164	1,000	4,128
"	"	"	"	"	"	"	"	"	"	6	17	23	"	22	108
"	"	"	"	"	"	"	"	24	1	17	13	30	"	30	104
"	"	"	"	"	"	"	"	160	1	23	29	63	"	62	312
1	8	"	"	8	9	7	16	145	17	7	1	25	8	33	178
"	"	"	"	"	"	"	"	9	"	1	3	4	"	11	20
8	150	8	48	874	832	617	1,199	30,658	1,600	3,235	8,207	9,611	3,606	13,647	44,108
9	163	"	61	379	891	624	1,215	30,712	1,636	3,243	8,211	9,640	3,611	13,661	44,303
10	61	28	25	30	196	85	270	8,160	163	423	983	1,569	203	2,074	7,234
23	609	33	63	331	1,102	773	1,675	48,879	1,647	4,750	11,121	12,717	6,479	24,216	70,763
"	"	"	"	"	"	"	"	391	37	25	81	133	71	274	206
196	3,700	840	124	2,620	6,835	3,620	12,445	13,680	143	816	1,543	2,301	429	2,731	16,200
3	111	33	4	3	141	134	275	7,963	100	199	1,341	1,639	157	2,196	9,479
1	407	201	20	40	1,230	442	1,672	2,407	73	179	405	657	192	849	3,446
"	"	"	"	"	"	"	"	7	3	3	4	9	8	17	24
1	3	"	"	"	4	3	7	7	"	"	"	"	"	"	7
"	36	4	1	3	24	"	24	44	2	"	11	13	3	13	59
393	4,627	947	293	3,432	9,517	7,057	16,574	75,017	2,383	6,217	18,453	21,063	8,234	22,222	"

APPENDIX
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of							
			Underground.							
			Males.						Total Males and Females.	
			Overmen and Sirdars.	Coal cutters.	Lowers.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons								00
Bihar and Orissa—contd.	Brought forward	14,034,455	1,630	22,887	7,066	5,068	7,721	44,885	14,090	58,443
	Sambalpur—Hingir Rawapur	36,774	0	43	43	41	...	133	29	161
	Sonthal Parganas—Jaluty	40,733	13	144	35	45	34	271	24	295
	Raniganj coalfield (part of)	73,113	14	217	...	34	11	340	73	422
	Total	25,085,074	1,657	23,271	7,135	5,188	7,839	45,105	14,216	59,321
Central Provinces	Chanda	202,081	33	691	336	106	374	1,440	154	1,593
	Chhindwara	890,270	77	1,740	554	383	339	3,090	676	3,778
	Total	282,331	110	2,437	890	489	613	4,530	830	5,366
Punjab	Jhelum	20,809	23	124	23	33	60	265	...	268
	Mianwali	19,084	6	43	23	8	17	107	...	109
	Shahpur	2,866	...	17	...	...	...	11	...	17
	Total	42,759	29	184	46	41	77	383	...	394
Grand Total (Coal) for 1929.		22,708,174	2,972	37,922	11,472	8,182	13,635	75,022	21,860	96,882
Ditto for preceding year		21,515,796	2,623	36,679	8,429	8,377	12,729	69,737	20,409	90,146
Difference		+1,192,378	+349	+1,243	+3,043	+416	+1,270	+5,285	+1,451	+6,736

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1929 at mines under the Indian Mines Act—*contd.*

persons employed daily in and about the mines

Open workings							Total Under-ground and Open workings.	Surface.						Grand Total.	
Males								Males.							
Overmen and Siding	Coal-writers	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.		Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.	Females.	Total Males and Females.		
AL—contd.															
193	4,027	917	298	3,482	9,517	7,067	16,574	73,017	2,188	6,217	15,461	24,069	8,234	22,322	107,339
								161		49		49	9	58	219
								208	18	32	79	120	23	149	464
								478	20	41	60	186	24	193	614
193	4,027	917	298	3,432	9,517	7,057	16,574	71,895	2,421	6,746	16,722	24,691	8,750	22,731	106,616
								1,698	63	108	230	409	107	316	2,114
1				10	12	2	13	3,791	91	400	819	1,307	464	1,721	5,542
1				10	11	2	13	3,280	166	812	1,000	1,716	551	2,277	7,630
								263	21	16	162	161		181	419
								107	7	4	73	90	6	10	273
2	21				27		27	41	4	45		50		50	94
2	25				27		27	418	36	61	221	321	6	327	763
213	4,896	1,120	476	6,118	16,793	7,945	19,738	175,617	4,172	10,425	22,734	27,966	12,022	50,018	165,614
218	5,400	313	435	3,021	9,645	8,019	17,663	114,597	4,001	17,017	21,801	36,007	17,612	67,542	184,137
+1	-74	+13	+21	+1,097	+1,750	-78	+1,750	+1,043	+132	+323	+76	+1,299	-23	+678	+1

APPEN

STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							
			Underground.						Total Males and Females.	
			Males.					Females.		
			Overmen and strikers.	Coal cutters.	Lowers.	Other skilled labour.	Other unskilled labour.			Total Males.
		Tons.							CO	
	Brought forward	14,954,455	1,839	22,867	7,062	5,068	7,721	44,853	14,000	58,443
Bihar and Orissa—contd.	Pamelpur—Hingir Pampur	36,374	9	43	43	41	..	133	20	161
	South Parganna—Jainty	40,732	17	164	35	45	34	271	24	295
	Hankun coalfield (part of)	73,115	14	217	..	34	34	340	73	412
	Total	15,085,074	1,672	23,271	7,153	5,168	7,839	45,103	14,210	59,313
Central Provinces.	Chanda	202,081	33	681	336	106	274	1,440	154	1,594
	Chhindwara	680,270	77	1,764	864	363	338	2,000	676	2,676
	Total	882,351	110	2,437	1,200	469	613	4,439	830	5,269
Punjab	Jhelum	30,806	25	124	23	23	60	264	..	268
	Mianwali	19,084	6	43	25	8	17	107	..	107
	Rahapur	3,600	..	17	..	..	..	17	..	17
	Total	43,150	31	184	48	31	77	388	..	389
Grand Total (Coal) for 1929.		22,708,174	2,771	37,227	11,472	9,197	13,645	74,022	21,860	95,102
Ditto of preceding year.		21,815,766	2,635	36,076	8,449	8,777	12,783	67,727	22,408	90,135
Difference		+ 892,408	+ 136	+ 1,151	+ 3,023	+ 420	+ 1,862	+ 7,295	- 548	+ 4,967

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1929 at mines under the Indian Mines Act—contd.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings	Surface.						Grand Total.
Males									Males						
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour	Total Males	Females	Total Males and Females.		Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.	Females.	Total Males and Females	
AL—contd.															
193	1 027	917	298	8,452	9 517	7,067	16,574	75,017	2,488	6,217	15,463	24,068	2 214	22 322	107,379
								161		49		49	9	52	219
								298	16	32	79	120	21	149	444
								673	20	49	60	138	74	192	814
193	4,027	917	298	8,452	9 517	7,057	16,574	75,615	2,433	6,340	16,022	24,491	2,120	22,721	108,016
								1,809	83	108	230	449	147	416	2,114
1				10	11	2	13	3 971	91	406	816	1,307	444	1,731	5,212
1				10	11	2	13	6 980	144	612	1,660	1,716	521	2 277	7,456
								265	21	14	142	141		141	446
								167	7	4	72	90	6	96	275
2	21				27		27	11	4	45		51		50	84
1	25				27		27	410	36	64	221	221	6	227	743
213	4 648	1,120	476	4,118	10,293	7,045	17 734	1,36 17	4 172	1,452	22 734	35,796	12,022	20 018	155,814
212	3,400	819	431	3,021	8,643	6,019	17,483	114,577	6 007	1,007	21,801	26 007	12,415	40,342	144 117
+1	-474	+611	+21	+1 093	+1,700	-74	+1,270	+1 043	+132	+273	+778	+1,209	-797	+676	+1,179

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						Total Males and Females.
			Males.					Females.	
			Foremen and Mistee	Miners	Other skilled labour.	Other unskilled labour	Total Males.		
IRON									
Bihar and Orissa	Singbhum . .	Tons. 1,320,245	...	...	...	...	...	...	...
Burma . .	Henzada . .	...	...	...	...	...	...	...	...
	Mandalay . .	...	...	...	...	...	...	...	...
	Northern Shan States.	46,140	...	...	...	...	...	...	...
	Total . .	46,140	...	...	...	...	...	...	...
	Grand Total (Iron ore) for 1929	1,436,385	...	...	...	...	...	...	...
	Grand Total (Iron ore) for preceding year.	1,206,724	4	39	...	81	124	...	124
	Difference . .	+229,661	—4	—39	...	—81	—124	...	—124
MANGANESE									
Bihar and Orissa	Singbhum . .	22,636	6	62	21	27	116	142	260
	Belgaum . .	8,606	...	...	...	...	...	...	...
Bombay . .	North Kanara . .	6,245	...	...	...	...	...	...	...
	Panch Mahale . .	56,325	3	25	2	5	35	...	35
	Total . .	71,237	9	25	2	5	35	...	35

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1929 at mines under the Indian Mines Act—contd.

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Foremen and Males	Males				Females.	Total Males and Females		Males				Females.	Total Males and Females.	
	Miners.	Other skilled labour	Other unskilled labour	Total males				Clerical and superintending staff	Skilled labour.	Unskilled labour.	Total Males			
ORE.														
153	2,658	331	502	3,641	1,947	5,791	5,791	146	369	931	1,446	862	2,329	6,119
			7	7		7	7							7
2		5	215	222	1	223	223	12	4	294	310	63	373	536
2		5	222	229	1	230	230	19	9	338	368	63	429	659
155	2,658	310	721	4,073	1,049	5,021	5,021	165	378	1,269	1,612	945	2,757	6,773
131	2,109	194	975	3,409	1,593	5,002	5,126	209	505	1,777	2,491	530	3,021	8,147
+21	+749	+142	-231	+664	+353	+1,019	+893	-41	-127	-508	-679	+415	-264	+631
ORE														
30	271	48	56	405	241	646	945	26	66	261	293	431	727	1,673
11	241	6	3	261	144	405	405	2			2		2	407
12	230	8	114	354	225	622	622	14	4	101	119	27	156	
78	1,018	32		1,125	849	1,977	2,012	59	51	318	397	86	483	
101	1,489	46	147	1,782	1,221	3,004	3,039	46	25	417	528		641	

STATISTICS OF MINES

Table

Number of workers and output of minerals during

Province	District and Mineral field	Total Output	Average number of persons employed						
			Underground					Females.	Total Males and Females
			Males						
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males.		
Central Pro- vince		Tons							
	Dalaghat . .	263,103	20	306	5	115	586	174	710
	Bhandara . .	156,525	..	...	..	..	..	..	..
	Chhindwara . .	29,811	4	39	21	6	66	..	72
	Nagpur . .	172,461	9	105	6	3	123	11	134
	Total . .	621,905	33	540	35	123	781	185	916
Madras	Bellary . .	10,575	..	..	..	..	..	..	..
	Kurnool . .	..	..	..	..	..	..	..	..
	Vizagapatam . .	24,533	..	..	..	..	..	..	..
	Total . .	35,068	..	..	..	..	..	..	..
	Grand Total (Manganese ore) for 1929	750,908	41	627	58	155	884	327	1,211
	Grand Total (Manganese ore) for preceding year.	716,626	41	690	48	206	956	207	1,195
	Difference . .	+34,282	..	-63	+10	-51	-104	+120	+16

I—contd.

AND MINERALS—contd

No. I—contd.

the year 1929 at mines under the Indian Mines Act—contd.

daily in and about the mines

Open workings							Total Underground and Open workings	Surface					Grand Total.	
Foremen and Natives.	Males				Total Males and Females	Males				Total Males and Females.				
	Miners	Other skilled labour	Other unskilled labour	Total Males		Clerical and superintending staff.		Skilled labour	Unskilled labour		Total Males			
ORE—contd.														
170	3,139	71	238	3,618	3,276	6,894	7,604	102	63	677	662	747	1,559	9,193
123	1,424	61	102	1,735	1,554	3,289	3,280	33	32	201	200	155	451	3,746
13	109	11	6	139	70	209	281	8	29	98	133	67	223	503
145	2,614	78	112	2,979	2,628	5,607	5,741	35	65	601	741	456	1,197	6,935
151	7,299	211	489	8,471	7,529	15,999	16,915	196	229	1,577	2,001	1,435	3,450	20,654
13	36	11	35	95	47	142	142	16	17	30	61	21	87	229
..	..	..	9	9	9	9	9	..	..	..	..	..	..	9
22	703	7	13	747	241	1,068	1,068	8	37	142	157	3	199	1,276
33	739	18	39	851	388	1,239	1,239	24	54	172	250	27	277	1,216
617	9,789	353	751	11,510	9,415	20,925	22,159	241	404	2,327	3,065	2,009	5,104	27,263
684	10,760	322	676	12,442	10,779	23,231	24,428	303	409	2,655	3,567	1,512	5,109	29,537
-67	-971	+31	+75	-869	-1,971	-2,803	-2,227	-9	-5	-175	-232	+237	-65	-2,225

APPENDIX
STATISTICS OF MINES

Table

Number of workers and output of minerals, during the

Province.	District and Mineral field.	Total output.	Average number of persons employed						
			Underground.					Females.	Total Males and Females.
			Males.						
			Foremen and Males.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Burma		Tons.							LEAD
	Northern States. Shan	463,972	119	2,500	260	2,049	4,928	...	4,928
	Southern States. Shan	719	19	171	25	7	222	...	222
	Grand Total (Lead ore), for 1929	464,691	138	2,671	285	2,056	5,150	..	5,150
	Grand Total (Lead ore) of preceding year.	443,654	141	2,673	264	1,448	4,526	...	4,526
	Difference	+21,037	-3	-2	+21	+608	+624	.	+624
Burma		Tons							ANTIMONIAL
	Northern States. Shan	1,200							Figures
	Total of preceding year	1,241	..	..	..	..	..	..	..
	Difference	-41	...	...	..	...	...	...	...

*79,033 tons of refined

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.					Grand Total.	
Males					Females	Total Males and Females		Males				Females		Total Males and Females
Foremen and Males	Miners.	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males			
ORE														
1			58	59	...	59	4,937	56	201	817	777		777	5,704
...					...		212	5	24	35	64	7	71	233
1		...	55	59	..	59	5,209	61	228	352	641	7	648	6,057
1	...		59	69	...	69	4,566	133	159	501	793	5	798	5,364
...			-1	-1	...	-1	+633	-72	+69	+51	+48	+2	+50	+673
LEAD.														
with those for Lead ore														
...														
Lead extracted														

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total output	Average number of persons employed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			Underground.					Females	Total Males and Females																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output	Average number of persons employed						
			Underground						Total Males and Females.
			Males.					Females.	
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males		
Burma		Tons.							TIN
	Amberst . . .	20	1	3	10	1	15	...	15
	Mergui . . .	1,184	1	8		14	23	...	23
	Tavoy . . .	2,171	8	1,416	206	...	1,630		1,630
	Thahton . . .	9	4	9	...	...	13	3	16
	Grand Total (Tin Ore) for 1929.	3,384	14	1,436	216	15	1,661	3	1,664
	Grand Total (Tin Ore) of preceding year	2,777	16	475	59	40	590		590
	Difference . . .	+607	-2	+961	+157	-25	+1,091	+3	+1,094
Burma		Tons.							WOLFRAM
	Mergui . . .	50							Figures included
	Tavoy . . .	1,011							
	Grand Total (Wolfram Ore) for 1929	1,061		...	...	...	...	Ditto	Ditto
	Grand Total (Wolfram Ore) for preceding year.	622	..	...	...	..	...	...	...
	Difference . . .	+439	...	...	...	...	...	..	..
Baluchistan		Tons							CHROMITE
	Zhob . . .	17,903	7	104	-	...	111		111
	Total . . .	17,905	7	104	-		111	-	111

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings.							Total Underground and Open workings.	Surface						Grand Total.		
Males.					Femalee	Total Males and Femalee		Males				Femalee	Total Males and Femalee.			
Foremen and Matee	Minere.	Other skilled labour	Other unskilled labour	Total Malee				Clerical and super- vising staff.	Skilled labour.	Unskilled labour.	Total Malee.					
ORE.																
2	...	77	69	148	...	148	163	6	11	...	17	...	17	169		
20	1,214	603	516	2,338	11	2,869	2,892	97	10	103	213	..	213	2,607		
21	1,820	177	1,163	3,454	99	3,583	5,213	114	82	335	531	4	535	5,745		
1	...	5	5	11	28	39	35	..	3	...	3	.	3	53		
53	3,034	1,161	1,753	6,001	138	6,139	7,523	217	106	443	766	4	770	8,333		
103	2,097	904	1,913	5,979	163	6,142	6,732	142	291	493	916	...	916	7,648		
- 50	+ 77	+197	-162	+22	-25	-3	+1,091	+75	-165	-40	-150	+4	-146	+945		
ORE.																
with those for Tin Ore																
Ditto	Ditto	Ditto	Ditto	...	...	...	...	...	...	...	...	...	...	...
.		
.		
ORE																
8	61	..	..	72	..	72	153	3	.	57	61	..	61	213
5	61	..	..	72	..	72	153	3	.	57	61	..	61	213

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Provinces.	District and Mineral field	Total Output.	Average number of persons employed						
			Underground					Females.	Total Males and Females
			Males						
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour.	Total Males.		
Bihar and Orissa	Brought forward	17,905 Tons. 3,119	7	104	...	..	111	CHROMITE 111	
	Singhbhum		..	...	..	..	..	..	..
	Grand Total (Chromite Ore) for 1929	21,054	7	104	..	.	111	...	111
	Grand Total (Chromite Ore) of preceding year.	17,167	5	30	...	...	35	...	85
	Difference	+3,887	+2	+74	.		+76	..	+76
Bihar and Orissa	Singhbhum	Tons 76,831	3	8	43	104	158	...	158
Burma	Henrada	..	.		...				...
	Grand Total (Copper Ore) for 1929	76,831	3	8	43	104	158	..	158
	Grand Total (Copper Ore) of preceding year	18,055	4	20	13	42	109	.	109
	Difference	+58,776	-1	-12	+30	+62	+49	..	+49

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females	Total Males and Females.
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males		
Burma	Northern Shan States	Tons. 11,303							COPPER Figures included
	Total of preceding year.	10,978	...	...	...	...	...	...
	Difference	+325	...	...	...	...	...	...
Burma	Northern Shan States	Tons. 3,065							NICKEL Figures included
	Total of preceding year.	2,899	...	...	...	...	...	...
	Difference	+166	...	...	...	...	...	...
Burma	Northern Shan States	Tons. 58,435							ZINC CON Figures included
	Total of preceding year	61,122	...	...	...	...	...	...
	Difference	- 2,687	...	...	...	...	...	...
Burma	Katha { Rubies Sapphires Spinels	Carats. 37,640 2,530 3,450	...	...	...	...	...	...	GE

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1920 at mines under the Indian Mines Act—contd.

daily in and about the mines

Open workings						Total Underground and Open workings	Surface.						Grand Total.		
Males					Females		Total Males and Females	Males				Females.		Total Males and Females.	
Foremen and Miners	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and superintending staff	Skilled labour.	Unskilled labour	Total Males				
MATTE															
with those for lead ore															
1				111		111	1		110	111		222	333		333
201				1	100	101	1	1	11		101	202	303		303
SPEISS															
with those for lead ore															
			1		11	12		100	11	11	111	122	233		233
	11	111			1	12	1 1	1 00	11	111	122	233	344		344
CENTRATES															
with those for lead ore.															
11	11		1	11	100	111	100	100	101	111	111	222	333		333
100	1	100	1	202	100	303	100	100	101	201	100	301	402		402
MS															
1	3	23	157	183	1	183	123	7	61	130	201	201	321		321

STATISTICS OF MINES

Table

Number of workers and output of minerals, during the

Province	District and Mineral field.	Total Output	Average number of persons employed						
			Underground					Females.	Total Males and Females
			Males						
			Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total Males		
		Cwt							MT
Bihar and Orissa.	Gaya . . .	7,328	67	787	207	217	1,368	169	1,537
	Hazaribagh . .	31,545	361	4,222	451	539	5,593	724	6,317
	Monghyr . . .	276	13	58	38	30	118	-	118
	Sonthal Pargannas	10							..
	Total . . .	39,161	441	5,067	786	815	7,100	893	8,002
Madras	Nellore . . .	9,901	77	555	254	378	1,264	593	1,857
	Nilgiris . . .	91	1	6	2	7	16	5	21
	Total . . .	9,995	78	561	256	385	1,280	598	1,868
Rajputana	Ajmer-Merwara .	281	18	94	8	7	127	2	129
	Grand Total (Mica) for 1929	49,437	537	5,722	1,050	1,207	8,516	1,493	9,909
	Grand Total Mica of preceding year.	44,629	683	7,244	710	1,257	9,894	2,677	12,571
	Difference . . .	+4,808	-146	-1,522	+310	-50	-1,378	-1,194	-2,572

IX I—contd.

ND MINERALS—contd.

o. I—contd.

ear 1920 at mines under the Indian Mines Act—contd.

aily in and about the mines

Foremen and Mates	Open workings						Total Underground and Open workings	Surface.						Grand Total.	
	Males					Total Males and Females		Males					Total Males and Females.		
	Mines	Other skilled labour	Other unskilled labour	Total Males	Females			Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males	Females			
CA															
39	211	132	21	603	202	1005	2135	89	52	143	184	12	296	2,731	
40	102	21	31	1,700	130	1,245	7,562	203	425	413	1,071	357	1,471	9,033	
3	19	2	21	17	11	55	200	10	5	14	35	20	55	261	
2	4	3	2	11	3	14	14	1	1	1	3	2	5	19	
110	1,220	161	141	1,800	355	2,215	10,217	309	456	601	1,366	431	1,827	12,044	
30	229	161	179	605	602	1,210	3,037	93	223	215	500	321	1,057	4,144	
							21	1	4	5	10	1	11	32	
33	2,9	161	179	605	602	1,210	3,078	97	226	233	576	322	1,055	4,176	
10	24	15		164	45	157	256	15	33		48	1	19	323	
139	1,542	337	139	2,577	1,005	2,582	12,541	421	745	654	2,020	254	2,274	14,815	
100	1,775	21	318	2,507	202	3,335	15,929	355	547	705	1,607	653	2,255	18,237	
-1	-233	+51	+101	+70	+204	+214	-235	+51	+128	+146	+377	+219	+673	-1,229	

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground						Total Males and Females.
			Males.					Females.	
			Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males		
Punjab.	Jhelum . . .	Tons 112,616	35	448	37	55	375	271	SA 846
	Mianwali . . .	16,193	...	21	55	...	76	...	76
	Shahpur . . .	19,627	1	76	13	...	90	62	152
	Grand Total (Salt) for 1929.	148,496	36	545	105	55	741	333	1,074
	Grand Total Salt of preceding year.	145,543	36	391	109	84	610	361	971
	Difference . . .	+2,953	+10	+154	-4	-29	+131	-28	+103
Madras . . .	Salem . . .	Tons. 22,134	...	...	...	...	...	...	MAGNE
	Total of preceding year.	22,542	...	...	...	...	...	...	...
	Difference . . .	-408	...	...	...	...	...	...	...
Bombay . . .	Katra . . .	Tons 9,044	...	...	...	...	...	...	BAU
	Total of preceding year.	11,167	...	...	...	...	...	...	...
	Difference . . .	-2,123	...	...	...	...	...	...	...

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1920 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Majors	Miners	Other skilled labour	Other unskilled labour	Total Males.				Clerical and superior staff	Skilled labour.	Unskilled labour	Total Males.				
LT															
1	9	..	...	10		10	856	1	48	352	401	1	403	1,238
							76	..	..	74	74	..	74	150
..			..		..	..	132	..	8	39	47	..	47	190
1	9			10		10	1,064	1	56	463	522	1	523	1,607	
1	15			18		18	957	1	109	430	540	1	541	1,528	
...	-6	..	...	-6	..	-6	+97	..	-53	+35	-18	...	-18	+70
SITE															
55	400	...	226	771	506	1,277	1,277	15	113	5	133	22	157	1,434	
46	512	...	314	872	600	1,472	1,472	14	121	38	151	19	163	1,633	
+0	-22		-68	-101	-94	-195	-195	+1	-6	-11	-16	+10	-6	-201	
XITE															
5	97	3	..	105	76	181	181	..	..	10	12	..	14	195
4	97	2		103	79	182	182	1	3	21	25	..	30	212	
+1	...	+1		+2	-3	-1	-1	-1	-1	-11	-13	-3	-16	-17	

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field	Total Output.	Average number of persons employed						
			Underground.						Total Males and Females
			Males.					Females	
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour	Total Males		
		Tons							ST EA
Bihar and Orissa	Singhbhum . .	349		11	40	15	75	6	81
Central Provinces	Jubbulpore .	1,541	2	..	6	2	16	...	16
Madras	Nellore . . .	17	..	..	..	..	..	...	..
United Provinces.	Hamirpur . .	412		56	...	215	301	...	302
	Grand Total (State- title) for 1929	2,319	2	67	55	268	392	6	398
	Grand Total of pre- ceding year.	1,603	4	128	16	239	389	69	458
	Difference .	+516	-2	-61	+37	+29	+3	-63	-69
Bihar and Orissa	Monghyr . .	Tons 43,099	...	..	...	...	..	...	SLA ..

DIX I—*contd.*AND MINERALS—*contd.*No. I—*contd.*year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings						Total Underground and Open workings	Surface						Grand Total	
Males					Females		Total Males and Females	Males				Females		Total Males and Females
Foremen and Mates,	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and superior non staff	Skilled labour	Unskilled labour	Total Males.			
TITLES														
11	4		2	6	71	130	217	13	10	4	27	...	27	211
5	21	20	41	82	70	162	178	2	12	8	12	30	43	223
		15		15		15	15	1	.	.	1	..	1	16
"		75	11	177		177	178	.	25	.	25	...	25	303
16	71	13	116	310	114	490	888	16	27	12	63	56	101	999
5	19	111	96	231	64	295	753	8	6	19	23	4	37	790
+11	+52	+2	+50	+115	+40	+195	+133	+8	+31	-7	+22	+22	+64	+199
TH. 12	63	7	6	277	50	293	293	9	2	2	13		13	296

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour.	Total Males.		
Punjab .	Gurgaon . .	Tons 818	.	15	7	..	22	...	SLA 22
	Kangra . .	4,457	4	..	10	22	36	.	36
	Total	5,270	4	15	17	22	58	...	58
	Grand Total (State) for 1929.	53,869	4	15	17	22	58	...	58
	Grand Total of preceding year.	7,734	1	23	11	8	43	...	43
	Difference . .	+45,635	+3	-8	+6	+14	+15	...	+15
Bihar and Orissa	Shahabad . .	Tons 269,368	...	...	...	..	...	...	LIME ...
	Sutkur . .	221,850	..	...	...	...	..	...	...
Burma .	Amherst . .	30,910	.	.	...	..	...	.	.
	Northern Shan States.	43,217	.	...	.	...	...	..	.
Central Provinces.	Total	74,127	.	...	.	..	.	...	.
	Bilaspur . .	32,226	...	...	...	...	..	...	.
	Jubbulpore . .	341,244	.	.	...	..	...	...	...
	Raipur . .	4,575	...	...	.	..	...	...	...
	Yeotmal . .	8,133	..	...	...	...	.	.	.
	Total	386,250	...	...	...	...	...	...	...

DIX I—contd.

AND MINERALS—contd

No. I—contd.

year 1929 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males				Females.	Total Males and Females	
Foremen and Males	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour	Unskilled labour	Total Males			
TE—contd														
20	20	25	14	61		61	63	1	...	3	4	..	4	67
50	60	70	14	180	.	180	216	.	..	..	..	..	.	216
88	80	95	28	241		241	209	1	...	3	4	...	4	303
145	173	96	461	50	514	572	10	3	5	17	..	17	539	
23	183	153	68	447	39	486	529	2	1	7	10	..	10	539
+ 27	- 38	+ 20	+ 8	+ 17	+ 11	+ 28	+ 43	+ 8	+ 1	- 2	+ 7	..	+ 7	+ 50
STONE														
90	303	60	371	523	191	1 017	1,017	79	86	156	321	21	315	1,362
4	100	11	315	400		460	400	1	2	4	7	..	7	467
5	80	21	21	133	43	175	175	1	2	2	5	...	5	180
2	.	2	198	202		202	202	...	.	..	..	...	...	202
7	20	20	223	335	43	377	377	1	2	2	5	..	5	382
12	212		221	103		327	327	9	18	68	95	539	125	432
71	539	62	482	1,160	1,905	3,115	3,115	23	65	170	261	377	638	3,753
	133		135	135		273	273	6	..	43	51	25	76	290
4	...	..	36	40	14	54	54	1	..	9	10	..	10	64
87	886	62	518	1,339	2,160	3,719	3,719	41	83	290	417	432	849	4,568

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field	Total Output.	Average number of persons employed						
			Underground.						Total Males and Females
			Males					Females.	
			Foremen and Moten	Miners.	Other skilled labour	Other unskilled labour.	Total Males.		
Punjab	Attock . . .	Tons 196,567	LIME
	Jhelum . . .	74,248	..	..	..	..	..	..
	Mianwali . .	267	..	..	..	..	..	..
	Rawalpindi .	68,000	..	..	..	..	..	..
	Total . . .	350,022	..	..	..	..	..	..
	Grand Total (Limestone) for 1929	1,318,647	..	..	..	..	..	..
	Grand Total of preceding year	1,104,578	..	3	..	3	6	1	7
	Difference	-20,931	..	-3	..	-3	-6	-1	-7
Bengal . .	Dirbham . .	Tons 100,206	STONE (CHIEFLY IGNEOUS)
			
Bihar and Orissa.	Sambalpur . .	4,480	
	Konthal Parganas .	248,475	..	..	..	..	..	..
	Shahabad . . .	8,000	..	..	..	..	..	..
	Singbham . . .	84,615	..	..	..	..	..	..
	Gaya	68,467	..	..	..	..	..	..
	Total	412,067	..	..	..	..	..	..
Bombay	Bombay	67,000	
	Bombay Suburban .	29,000	..	..	..	..	..	..
	Hyderabad . . .	10,125	..	..	..	..	..	..
	Karachi	46,685	..	..	..	..	..	..
	Sukkur	103,915	..	..	..	..	..	..
	Surat	31,170	..	..	..	..	..	..
	Thana	24,498	..	..	..	..	..	..
	Total	623,411	

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1929 at mines under the Indian Mines Act—contd.

daily in and about the mines

Open workings.						Total Underground and Open workings	Surface						Grand Total.	
Males					Females		Total Males and Females	Males				Females.		Total Males and Females.
Foremen and Males	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and superintending staff.	Skilled labour.	Unskilled labour.	Total Males.			
STONE—contd.														
51	114		338	708		708	705	15	23	421	463	0	471	1,142
6	90			96		96	90	4	4	220	228		228	321
Figures	in	thous.	thous.	thous.	Stone	thous.	thous.	thous.	thous.	thous.	thous.	thous.	thous.	thous.
64	297		538	899		899	8	21	29	720	773	0	772	1,661
232	1,665	165	1,091	4,076	2,393	6,472	6,172	149	202	1,172	1,523	465	1,988	8,490
250	2,065	205	1,171	4,113	2,812	6,955	6,962	117	266	1,906	2,319	305	2,624	9,816
—7	—120	—130	+520	—37	—116	—43	—190	+32	—61	—791	—823	—40	—863	—1,356
ROCK AND QUARTZITE.														
1	100	11	5	216	6	216	216	10	26	321	370	31	401	617
20	191	165	10	1,072	61	1,133	1,130	66	157	120	613	140	753	2,883
23	237	107	60	425	12	437	414	5	10	13	61	6	67	481
23	410		413	295		295	615							615
21	160	323	727	2,633	829	2,902	2,902	71	157	430	658	192	850	3,752
15	10	14	172	211	67	278	278	10	19	110	139	40	179	453
		3	72	75	4	79	79	3	43	50	125		125	207
17			121	121		121	121							121
17			167	165	10	175	175							175
4	12	12	1,725	121	121	1,246	1,246							1,246
4	20	1	251	161	412	412	412							412
4	20	1	51	51	51	101	101							101
71	22	121	1,515	1,725	412	2,237	2,237	51	71	250	322	116	438	2,675

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females	Total Males and Females.
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males		
STONE (CHIEFLY IGNEOUS)									
Burma	Lower Chindwin .	Tons 33,620	...	...	...	...	...	...	...
	Mergui . . .	1,587	...	...	...	...	...	...	...
	Tavoy . . .	8,174	...	...	...	...	...	...	...
	Thabon . . .	387,709	...	...	...	...	...	...	...
	Toungoo . . .	70,469	...	...	...	...	...	...	...
	Total . . .	501,579	...	...	...	...	...	...	...
Central Provinces.	Chhindwara .	30	...	...	...	...	...	...	...
Delhi . . .	Delhi . . .	37,500	...	...	...	...	...	...	...
Punjab	Jhelum . . .	108,663	...	...	...	...	...	...	...
	Mianwali . . .	80,222	...	...	...	...	...	...	...
	Rawalpindi . .	112,969	...	...	...	...	...	...	...
	Shahpur . . .	25,219	...	...	...	...	...	...	...
	Sheikhpura . .	15,001	...	...	...	...	...	...	...
	Total . . .	352,174	...	...	...	...	...	...	...

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1928 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings.	Surface						Grand Total.
Males					Females.	Total Males and Females		Males					Total Males and Females.	
Foremen and Males	Miners	Other skilled labour	Other unskilled labour	Total Males.				Clerical and super- vising staff	Skilled labour.	Unskilled labour.	Total Males.	Females.		
ROCK AND QUARTZITE) - contd.														
...	-	-	349	349	-	349	349	39	-	-	39	-	89	388
1	-	4	99	30	10	49	40	-	-	-	-	-	-	40
-	-	-	99	99	-	99	99	-	-	-	-	-	-	99
54	840	303	853	1,640	40	1,680	1,680	34	36	105	105	-	195	1,875
11	163	18	116	308	248	556	556	2	6	3	11	-	11	567
66	1,003	415	942	2,426	298	2,724	2,724	75	62	108	245	-	245	2,969
1	-	3	-	4	6	10	10	-	-	2	2	-	2	12
2	26	-	-	23	-	23	23	2	-	50	52	10	62	90
12	80	1	302	351	23	401	401	2	2	14	18	-	15	422
10	-	-	170	150	20	200	200	-	-	-	-	-	-	200
13	82	-	-	51	-	94	94	6	4	250	262	-	262	356
5	-	1	60	66	-	66	66	-	-	-	-	-	-	66
6	60	1	31	148	60	206	206	3	21	6	32	-	32	260
45	27	3	613	669	103	973	973	15	27	270	312	-	312	1,284

IX I—contd.

ND MINERALS—contd.

Co. 1—contd.

Year 1929 at mines under the Indian Mines Act—contd.

Daily in and about the mines

Open workings										Total Underground and Open workings.		Surface.					Grand Total.
Males						Females	Total Males and Females	Males.				Females	Total Males and Females.				
Foremen and Makins	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour					Unskilled labour	Total Males.		
30	391	82	703	1,206	613	1,819	1,819	8	61	59	120	101	221	1,915			
21	5	9	266	301	234	535	535	7	16	78	101	101	202	856			
19	411	63	39	513	413	926	926	12	3	169	184	...	184	1,148			
8	.	.	189	204	49	253	253	3	1	164	168	..	168	429			
78	807	174	1,205	2,663	1,359	3,620	3,620	20	81	411	522	..	522	6,142			
345	3,356	1,206	5,010	9,617	3,033	12,870	12,870	254	431	1,885	2,513	319	2,802	18,702			
190	4,120	1,372	4,439	8,121	1,675	9,796	9,796	194	724	1,510	2,428	500	2,928	12,724			
+155	-784	-206	+1,577	+1,696	+1,378	+3,074	+3,074	+60	-220	+315	+115	-151	-36	+3,038			
STONE																	
4	21	60	91	172	40	222	222	..	..	..	..	..	..	222
			46	16	46	46	46	..	..	..	..	..	..	46
3	51		18	72	103	175	175	1	..	..	1	..	1	176	
7	69	32	215	313	205	518	518	4	14	10	28	5	33	581			
2	41	13	21	76	19	95	95	3	3	4	9	..	9	104			
1	129	45	236	419	214	643	643	7	16	14	37	5	42	685			
16	20	111	369	719	367	1,086	1,086	18	16	14	38	5	43	1,129			
17	169	15	198	392	141	533	533	5	107	5	117	..	117	655			
-1	+34	+28	+191	+422	+226	+648	+648	-3	-81	+9	-79	+5	-74	+474			

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground					Females.	Total Males and Females.
			Males						
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Burma .	Thabon . . .	74,741	..	...	..	..	...	..	LATE ...
	Toungoo . . .	59)	..	..	..	..	...	..	...
	Total . . .	75,331	..	..	..	..	...	...	...
Central Provinces.	Jubbulpore . .	2,738	..	..	..	..	...	...	..
	Grand Total (Late-rite), for 1929.	78,060	..	...	...	..	...	...	..
	Grand Total of preceding year.	58,996	..	..	...	..	...	...	...
	Difference . . .	+ 19,073	..	..	..	..	...	...	..
Bihar and Orissa.	Singhbhum . .	6,934	..	...	...	..	...	Figur ■	GHA inclu-
	Total of preceding year.	16,295	...	...	...	...	...	...	...
	Difference . .	-9,361	...	...	...	...	...	...	..

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings						Total Underground and Open workings	Surface.						Grand Total.	
Males					Females		Total Males and Females	Males.				Females.		Total Males and Females.
Foremen and Males	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and super- vising staff	Skilled labour.	Unskilled labour	Total Males.			
RITE														
3	284	12	6	285		285	9	..	..	9	..	9	314
6			22	28	285	28		..	..			..	25
9	264	12	28	313		313	9	..	..	9	..	9	322
3	30		41	90	41	137	2	..	4	6	.	6	143	
14	314	12	60	402	41	450	11	..	4	15	..	15	465	
9	240	12	77	328	12	350	11	3	..	14	..	14	364	
+5	+74		-8	+71	+29	+100	..	-3	+4	+1	..	+1	+101	
VEL														
ded with those for Stone														
..	

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings						Total Underground and Open workings	Surface						Grand Total.	
Persons and Males	Males				Females		Total Males and Females	Males				Females.		Total Males and Females
	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
RUM														
Stone														
50	4	60	861	925	468	1,416	1,416	3	43	11	64	...	1,519	
Stone														
80	4	60	861	925	468	1,416	1,446	3	43	11	64	...	1,519	
CLAY.														
2	103	21		124	23	151	151	3	8	11	16	27	175	
	1		1	2	16	4	7						7	
3	36		61	100	57	157	157	1	42	43	24	69	226	
1	17	3		21	17	38	38	1	13	13	7	31	72	
2	26			26	10	36	36	1	1	46	6	54	82	
6	20	3	2	25	26	277	277	4	15	101	27	137	297	

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground.						
			Males					Females	Total Males and Females.
			Foremen and Mates	Miners	Other skilled labour	Other unskilled labour.	Total Males		
Central Provinces.	Jubbulpore . .	Tons 43,938	...	...	8	.	9	8	FIRE 18
	Grand Total (Fire Clay) for 1929	73,505	..	8	9	...	12	9	21
	Grand Total of preceding year	83,777	...	4	..		4		4
	Difference .	-9,272	...	-1	+0	.	+8	+0	+17
Bihar ⁷ and Orissa.	Bhagalpur . .	4,082	3	6	..	7	16	6	CHINA 22
	Singbhum . .	5,336	..	...		...	..	.	...
	Total .	9,418	3	8		7	16	6	22
Delhi . .	Delhi	2,310	..	8	.	...	8		8
	Grand Total (China Clay) for 1929.	11,728	3	14	...	7	24	6	30
	Grand Total of preceding year.	7,186	2	8	..	4	14	11	27
	Difference	+4,542	-1	+6	...	+3	+10	-7	+3

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1929 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings							Total Underground and Open workings	Surface						Grand Total.
Males					Females	Total Males and Females		Males				Females	Total Males and Females.	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and super- vising staff	Skilled labour	Unskilled labour.	Total Males			
CLAY—contd.														
8	13	8	217	145	211	386	401	1	1	47	49	16	65	469
10	197	32	179	424	350	774	795	8	16	156	164	69	219	1,014
18	210	32	221	463	533	1,016	1,030	4	24	169	197	61	261	1,291
-2	15	-	-43	-50	-163	-249	-235	+4	-6	-13	-17	+5	-12	-237
CLAY														
2	10	-	-	12	19	31	33	5	8	17	25	3	31	84
10	30	14	126	213	212	427	427	17	15	64	96	130	226	653
18	69	14	126	227	231	458	460	22	21	61	124	153	237	737
-	-	-	-	-	-	-	5	1	8	-	9	-	9	17
18	69	14	126	227	231	458	458	23	23	61	133	153	266	754
17	75	-	25	193	189	389	393	23	12	91	133	121	253	649
+1	-9	+14	+41	+47	+82	+89	+92	-	+11	-1	+1	+12	+13	+13

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and mineral field	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Males	Miners	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							CL
Bengal	Burdwan	13,221		.	.		...	...	...
Central Provinces	Jubbulpore	70,231		..	...	...	...	.	...
Punjab	Attok	39,079							Figures included with those
	Grand Total (Clay) for 1929	124,531			.	..	..	...
	Grand Total of preceding year	28,536				.	...	..	..
	Difference	+95,695		..	...	...	.		...
Rajputana	Ajmer-Merwara	Tons 39	1	4	...	.	3		GRA 5
	Total of preceding year.	..	.		...	...	...		...
	Difference	+39	+1	+4	...	.	+5		+5
Madras	Kurnool	602	..	10	4	8	22		LARY 15
	Total of preceding year	620	1	32	.	..	33	.	33
	Difference	+182	+1	-22	+4	+6	-11	...	-11

DIX I—*contd.*AND MINERALS—*contd.*No. 1—*contd.*year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males				Females.	Total Males and Females	
Women and Maids	Miners	Other Skilled labour	Other unskilled labour	Total Males.				Clerical and superinte- ning staff	Skilled labour.	Unskilled labour	Total Males.			
AY	36			36	35	71	71	.	..	6	6	..	6	70
3	14	8		23	31	56	56	12	..	..	12		12	56
for Limestone														
3	50	8	.	61	66	127	127	22	.	8	10	..	10	137
3	19	16	6	46	50	105	105	10	..	10	10	..	10	115
	+31	-10	-6	+15	+7	+22	+22	-5		+8	..	..	..	+22
WHITE.														
..	12	.		12		12	12	..	..	12	12	..	12	9
										
..	+12	..		+12		+12	+12		..	+12	+12	..	+12	4
TES.														
	20	16	18	54		54	56	-	4	7	11	..	11	87
1	8	16	.	25		25	28	5	21	-	26	..	26	84
-1	+12	-	+18	+29		+29	+15	-5	-17	+7	-15	-	-15	+3

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field	Total Output	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Matees.	Miners	Other skilled labour	Other unskilled labour.	Total Males		
Bihar and Orissa	Singhbhum . .	Tons Nil	...	...	...	...	...	...	APA
Madras	Trichinopoly . .	22	...	...	...	...	...	...
	Grand Total (Antite) for 1929.	21	...	...	...	...	...	...	...
	Total of preceding year.	805	...	...	...	...	...	...	...
	Difference . .	-783		...		...		...	...
Madras	Cuddapah . .	Cwt 1,768	3	47	...	...	50	41	ASBES 91
	Total of preceding year.	170	...	...	...	34	34	12	46
	Difference . .	+1,598	+1	+47		-34	+16	+29	+45
Central Provinces	Chanda . .	Tons 82	1	2	...	...	3	1	OCH 4
	Jubbulpore . .	1,103	...	...	...	...	...	...	...
	Total . .	...	...	...	...	...	...	...	...
	Grand Total (Ochre) for 1929.	1,185	1	2	...	...	3	1	4
	Grand Total of preceding year.	1,195	2	21	...	...	23	37	60
	Difference . .	-10	-1	-19	...	...	-20	-36	-56
Central Provinces	Jubbulpore . .	63	...	...	...	Figures included with those for FULLER'S			
	Total of preceding year	76	...	...	...	...	...	...	...
	Difference . .	-13	...	...	...	...	...	...	...

APPEN
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground.					Total Males and Females	Total Males and Females
			Males						
			Foremen and Matmen	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Bihar and Orissa.	Singbhum . . .	Tons 3,616	1	4	18	...	23	..	KYA 23
	Total of preceding year	345	Figures included with those for			
	Difference . . .	+3,271	...	...	...	...	...	...
	Madras . . .	Madura	CORUNDUM ...
Salem . . .		34	...	...	...	...	...	...
Grand Total (Corundum) for 1929.		34	...	...	...	...	...	...
Total of preceding year		21	...	...	...	...	...	...
Difference . . .		+13	...	...	...	...	...	...
Madras . . .	Trichinopoly . . .	23	Figures included with		
	Punjab . . .	Jhelum . . .	6,063	Figures included with		
Grand Total (Gypsum) for 1929.		6,066	...	...	...	...	...	...
Total of preceding year.		7,283	...	...	...	...	...	...
Difference . . .		-1,197	...	...	...	...	...	...

APPEN
STATISTICS OF MINES

Table
Number of workers and output of minerals during the

Province	District and mineral field.	Total Output	Average number of persons employed						
			Underground						Total Males and Females
			Males.					Females.	
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
Rajputana	Ajmer Merwara	Nil	...	...	...	...	...	...	BER
	Total of preceding year.	Nil	...	...	...	...	...	...	...
	Difference	...	...	...	...	...	...	...	...
Burma	Tavoy	lbs 88	...	...	...	...	...	...	BIS
	Total of preceding year.	-62	...	...	...	...	...	...	...
	Difference	+6	...	...	...	...	...	...	...
	Grand Total (Metaliferous Mines) for 1929	...	794	11,233	1,660	3,697	17,334	2,209	20,013
	Grand Total of preceding year	...	933	11,815	1,232	3,448	17,438	1,377	20,803
	Difference	...	-139	-582	+628	+449	+496	-1,168	-792
	Grand Total (all Minerals), for 1929	...	...	...	...	...	92,856	21,069	116,913
	Grand Total of preceding year	...	...	...	...	...	86,155	21,783	117,910
	Difference	...	...	...	...	...	-6,701	-7,824	-993

DIX I—*contd.*AND MINERALS—*concl'd.*No. 1—*concl'd.*year 1920 at mines under the Indian Mines Act—*concl'd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface					Grand Total.	
Foremen and Mates	Miners	Males		Total Males	Females	Total Males and Females		Males				Females.		Total Males and Females.
		Other skilled labour	Other unskilled labour					Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
YL			6	6		6	6	"	"	"	"	"	"	6
...	...		10	10	.	10	10	"	"	"	"	"	"	10
			—1	—1	.	—1	—1	"	...	"	...	"	"	—1
MUTH.														
for Tin														
	...						"	"	"	"	"	"	"	...
	...						"	"	"	"	"	"	"	...
1,871	31,200	1,002	13,150	43,412	30,783	64,225	64,208	1,707	3,046	9,835	14,588	5,157	19,775	104,013
1,751	25,728	3,015	10,105	41,502	20,431	61,933	62,801	1,636	3,703	10,004	16,343	4,527	20,731	104,542
+120	—1,469	+174	+3,975	+1,910	+319	+2,229	+1,407	+71	—657	—1,137	—1,745	+729	—926	+211
.	.	.	.	51,273	28,726	80,000	139,205	..	..	..	51,954	17,536	69,700	209,701
.	.	.	.	51,005	28,435	79,440	107,295	..	..	..	52,420	17,814	70,273	267,671
"	"	"	"	+3,270	+275	+3,545	+2,510	"	"	"	—472	—1	—100	+2,000

Table

Average hours worked per week in

Mineral Field.	Underground					
	Overmen and Sirdars. Foremen and Matos.	Miners.	Loaders	Skilled Labour	Un- skilled Labour	Females.
Jharia Coalfield (B. & O.)	47	43	43	46	46	43
Raniganj „ (Bengal)	48	43	43	46	46	43
Girdih „ (B & O.)	43	36	36	46	46	36
Assam „	53	36	54	53	53	..
Punjab „	44	38	36	41	45	..
Baluchistan Coalfield	36	36	37	36	24	...
Pench Valley Coalfield (C. P.)	50	44	47	48	48	47
B. & O Mica	44	40	...	45	43	45
Madras Mica	45	46	..	45	45	46
J P. Manganese	50	47	...	49	48	48
Madras Manganese . . . . .	...	..	...	..	...	...
C. P. Limestone . . . . .	...	...	...	...	...	...
B. & O Iron . . . . .	...	...	...	...	...	...
Burma Lead	51	51	..	51	50	1..
Burma Tin	46	45	...	45	45	45
Punjab Salt	45	46	...	51	43	37
B. & O China Clay	48	45	...	...	45	45
Punjab Slate	52	48	...	53	56	...
C. P. Stone . . . . .	...	...	...	...	...	...

DIX 1—*contd.*

No. 2.

each important mining field during the year 1929.

Open workings.						Surface.			
Overmen and Sirdars — Foremen and Mates	Miners	Landers	Skilled Labour	Unskilled Labour	Females	Clerical and Supervising Staff	Skilled Labour	Unskilled Labour.	Females.
46	43	43	44	46	43	53	52	51	51
45	43	40	47	47	44	53	57	50	49
48	41	44	43	45	43	30	48	47	49
54	54	54	54	51	54	56	56	56	56
			..	...		30	47	17	...
				42	42	49	46	34	.
42		..		42	42	51	52	50	50
41	41		46	41	45	45	41	47	53
46	48		46	46	45	46	46	43	43
46	44		47	46	41	48	46	46	43
52	49		49	50	49	47	50	49	50
48	47		48	49	47	47	49	47	48
46	47		48	47	43	48	48	43	43
47	47	...	47	47	..	53	49	53	...
49	50		49	49	47	43	41	45	49
48	48		...	...	...	43	49	51	43
41	43		48	42	43	46	41	41	41
48	46	.	48	48	.	48	...	49	...
46	43		42	44	44	50	41	35	37

Table

Analysis of figures relating to

Province.	Coalfield.	Coal.					
		Opening stock	Raisings.	Total.	Despatches	Colliery consumption.	Coal delivered for colong.
		Tons	Tons	Tons.	Tons	Tons.	Tons
Assam .	Makum . . .		262,487	262,987	243,315	16,682	2,700
	Nasra . . .	145	58,558	58,703	57,607	1,042	..
Baluchistan .	Baluchistan . .	878	10,984	11,857	10,547	..	..
Bengal (and part of Bihar and Orissa).	Baluganj . . .	345,100	6,823,053	7,173,153	6,469,132	471,219	80,198
	Jharia . . .	1,208,676	10,785,745	11,994,421	9,068,486	570,085	1,103,757
	Dokaro . . .	4,440	2,118,703	2,123,143	2,064,646	41,546	16,061
	Karanpura . .	1,329	467,127	468,956	450,762	15,122	...
Bihar and Orissa.	Guridih . . .	18,631	771,163	789,794	725,018	43,487	...
	Jaunty . . .	1,642	40,732	42,374	28,947	11,884	...
	Daltonganj . .	...	1,522	1,522	..	1,522	...
	Hutar . . .	273	357	630	159	356	..
	Hungir-Rampur .	1,928	31,774	38,000	28,818	8,501	..
Central Provinces.	Pench Valley . .	5,023	680,270	685,293	612,574	35,379	...
	Chanda . . .	5,949	202,061	208,010	150,416	21,127	...
Punjab . . .	Salt Range . . .	2,031	43,126	45,163	41,213	1,229	...
	Total 1929 . .	1,502,811	22,308,174	23,901,015	20,612,567	1,239,372	1,904,556

Table

Analysis of figures relating to

Province.	Coalfield.	Coal.					
		Opening stock.	Raisings	Total.	Despatches	Colliery consumption.	Coal delivered for coaling
		Tons	Tons.	Tons.	Tons	Tons.	Tons.
Assam	Nakom . . .	..	262,657	262,657	243,815	16,842	2,700
	Nazira . . .	145	58,556	58,703	57,607	1,042	..
Baluchistan	Baluchistan . .	873	10,964	11,857	10,547	..	..
Bengal (and part of Bihar and Orissa).	Bainganj . . .	345,100	6,823,053	7,173,153	6,469,182	471,219	80,198
	Jharia . . .	1,208,676	10,785,745	11,994,421	9,668,486	570,065	1,103,737
Bihar and Orissa.	Dokaro . . .	4,440	2,115,703	2,123,143	2,064,646	41,546	16,021
	Karanpura . .	1,829	467,127	468,956	450,762	15,122	..
	Giridih . . .	15,631	771,165	786,796	725,915	43,487	..
	Jamui . . .	1,642	40,732	42,374	28,947	11,834	..
	Daltonganj . .	..	1,522	1,522	..	1,522	..
	Hutar . . .	273	357	630	150	356	..
	Hingir-Rampur .	1,226	33,771	38,000	28,819	8,501	..
Central Provinces.	Pench Valley . .	5,023	650,270	655,293	642,574	33,379	..
	Chanda . . .	5,949	202,061	209,010	190,445	21,127	..
Punjab . . .	Salt Range . . .	2,031	43,136	45,163	41,213	1,229	..
	Total 1929 . .	1,502,811	22,508,174	23,901,015	20,612,367	1,239,873	1,204,528

DIX I—contd

No. 3.

output of Coal and Coke, 1929.

		Coke.									
Coal despatched to coke factories.	Closing stocks	Opening stocks		Coke made		Despatches.		Colliery consumption		Closing stocks.	
		Hard	Soft.	Hard.	Soft	Hard	Soft.	Hard	Soft.	Hard.	Soft
Tons	Tons	Tons	Tons	Tons	Tons.	Tons	Tons	Tons	Tons	Tons.	Tons
.				930		900	.	30		...	...
.	54		...				..	..	..	...	..
.	1,810	...					..	..		...	...
...	182,604	26	1,764	353	60,134	813	58,410		070	26	2,540
1,608,183	650,093	5,024	6,495	66,428	693,186	68,182	691,299	514	1,148	2,412	7,234
...	860	215	1	4,742	4,407	4,663	4,406	92	..	2	2
	5,072	.	.	.				.	...	..	...
53,778	17,394			..		.	..	.	...	.	...
	1,513	.	...	.		.	..		..		...
...
...	115					.	.		...	..	...
	681					.	.	.	...	...	...
	7,551	...				...		...	..	..	...
	6,457						..	.	...	...	...
	1,128						.	...	...	..	...
1,741,961		5,261	8,520	72,453	727,727	74,298	736,815	508	2,127	2,441	9,745

Analysis of figures relating to

Province.	Coalfield.	Coal.					
		Opening stock.	Raisings	Total.	Despatches	Colliery consumption	Coal delivered for coaling
		Tons	Tons	Tons	Tons	Tons.	Tons
Assam . . .	Makum . . .	..	263,657	262,987	213,315	16,882	2,791
	Nazira . . .	145	55,558	55,703	37,607	1,043	..
Baluchistan	Baluchistan . .	573	10,954	11,557	10,547	...	...
Bengal (and part of Bihar and Orissa).	Raiganj ..	345,100	6,823,053	7,173,153	6,409,192	471,219	80,198
	Jharia . . .	1,208,676	10,785,745	11,994,421	9,008,486	570,085	1,105,731
Bihar and Orissa.	Bokaro . . .	4,440	2,118,703	2,123,143	2,064,646	41,516	16,000
	Karampura . .	1,320	467,127	468,056	450,762	15,122	...
	Guridih . . .	15,631	771,165	786,796	725,015	43,487	...
	Jainty . . .	1,642	40,732	42,374	28,047	11,834	...
	Daltonganj . .	..	1,522	1,522	..	1,323	...
	Hotar . . .	273	357	630	159	356	..
	Hingir-Rampur .	1,226	33,774	35,000	28,618	8,301	..
Central Provinces.	Pench Valley . .	5,023	680,270	685,293	612,574	35,370	...
	Chanda . . .	5,949	202,061	208,010	150,416	21,127	..
Punjab . . .	Salt Range . . .	2,031	43,136	45,163	41,213	1,220	...
	Total 1929 . .	1,192,541	22,308,174	23,501,015	20,612,567	1,229,371	1,204,500

DIX I—contd

No. 3.

output of Coal and Coke, 1929.

		Coke.									
Coal despatched to coke factories.	Closing stocks	Opening stocks		Coke made		Despatches		Colliery consumption.		Closing stocks.	
		Hard.	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard.	Soft
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons.	Tons.
..	54	...	...	930	..	900	...	30	..	..	...
..	1,310	...	...	...	...	..	..	..	...	...	...
...	152,604	26	1,761	353	60,174	813	58,410	...	979	...	2,509
1,606,183	6,0093	5,021	6,493	66,423	693,186	68,182	691,209	314	1,148	2,472	7,234
...	860	215	1	4,742	4,407	4,863	4,406	92	...	2	2
...	3,072	...	...	...	...	...	...	...	...	...	...
53,778	17,394	...	...	...	...	...	...	...	...	...	...
...	1,343	...	...	...	...	...	...	...	...	...	...
...	115	...	...	...	...	...	...	...	...	...	...
...	681	...	...	...	...	...	...	...	...	...	...
...	7,531	...	...	...	...	...	...	...	...	...	...
...	6,437	...	...	...	...	...	...	...	...	...	...
...	2,126	...	...	...	...	...	...	...	...	...	...
1,741,001	...	3,261	8,300	72,453	717,727	74,298	754,115	908	2,127	2,470	9,743

APPENDIX I—contd.

Table No. 4.

Number of mines opened, closed and inspected, during the year 1920.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			COAL.					
Assam	Makum Coalfield	7	5	2	..	..	7	11
	Nasira „	2	1	1	1	1	1	5
Baluchistan	Baluchistan Coalfield	13	..	13	3	3	..	..
Bengal (and part of Bihar and Orissa).	Baniganj Coalfield	208	166	42	26	20	219	706
Bihar and Orissa.	Jharria Coalfield	248	174	74	29	18	260	838
	Bokaro „	5	5	..	..	..	5	17
	Karanpura Coalfield	4	3	1	1	..	3	6
	Giridih Coalfield	8	6	2	..	1	7	24
	Jaintry „	4	1	3	..	..	1	1
	Daltongunj Coalfield	1	1	..	..	..	1	2
	Hinter Coalfield	2	..	2	1	2	1	1
	Hingir-Rampur Coalfield	1	1	..	..	..	1	2
Central Provinces.	Pench Valley Coalfield	23	14	9	5	4	21	92
	Chanda Coalfield	6	5	1	..	..	6	12
Total . . . .		..	..	..	..	..	..	..

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field.	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Punjab	Salt Range Coalfield	16		16	4	3	...	...
	Grand Total (Coal) for 1929	548	382	166	70	52	537	1,620
	Grand Total of preceding year	556	406	150	31	60	543	1,681
	Difference	-8	-24	+16	+33	-28	-6	-61
Bihar and Orissa	Singbhum	6	3	3	..	...	4	4
	Burma	7	.	7	...	2	■	4
	Grand Total (Iron ore) for 1929	13	3	10	..	2	6	8
	Grand Total of preceding year	14	3	11	■	...	6	14
	Difference	-1	..	-1	-2	+2	-2	-6
Bihar and Orissa		12		12	1	5	11	11
		11	1	10	3	2	-	-

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Central Provinces.	.....	94	9	85	9	39	64	80
Madras	.....	8	1	7	..	1	5	5
	Grand Total (Manganese Ore) for 1929.	123	11	114	13	40	80	86
	Grand Total of preceding year	184	9	175	26	37	52	81
	Difference	-50	+2	-61	-13	-17	+28	+39
			LEAD ORE.					
Burma	Shan States	5	4	1	1	2	..	9
	Total of "preceding year	4	3	1	1	..	4	20
	Difference	+1	+1	..	..	+2	-2	-11
			GOLD.					
Bihar and Orissa	Singbhum	1	..	1	..	..	1	1
	Total of preceding year	1	..	1	..	..	1	1
	Difference	..	..	..	..	..	..	..

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
TIN AND WOLFRAM ORE.								
Durma		186	9	177	48	33	63	74
	Grand Total of preceding year.	203	9	194	70	37	6	0
	Difference	-17		-17	-22	-4	+57	+68
CHROMITE ORE.								
Baluchistan	Zhob	31	...	31	..	...	..	..
Bihar and Orissa	Singhbhum	3	...	3	1	1	3	3
	Grand Total (Chromite Ore) for 1929	34	...	34	1	1	3	3
	Grand Total of preceding year	35	.	25	1	1	5	6
	Difference	-1	.	-1	.	..	-2	-3
COPPER ORE.								
Bihar and Orissa	Singhbhum	1	1	.	..	...	1	2
Durma	Manzara	1	...	1	...	.	..	..
	Grand Total (Copper Ore) for 1929	2	1	1	...	...	1	2
	Grand Total of preceding year	4	2	2	1	1	3	3
	Difference	-2	-1	-1	-1	-1	-1	-1

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINER				INSPECTIONS.	
			Worked under me- chanical power	Not worked by me- chanical power.	Opened during the year.	Closed during the year	Number of mines inspected	Number of inspec- tions.
Burma . . .	Katha	1	1	...	...	.	1	2
	Total of preceding year .	2	2	.	...	..	...	...
	Difference .	-1	-1	...	...	...	+1	+2
	GEMS							
Bihar and Orissa.	.. . . .	397	24	373	174	143	148	186
	Madras	77	7	70	20	19	39	39
Rajputana	Ajmer-Merwara . . .	24	...	24	14	18	...	..
	Grand Total (Gems) for 1929	498	31	467	208	180	187	225
	Grand Total of preceding year	674	83	591	190	278	164	166
	Difference .	-176	-52	-124	+9	-98	+23	+59
Punjab . . .	SALT.							
	Salt Range	3	2	1	...	...	..	..
	Total of preceding year	3	1	2	...	...	2	4
	Difference .	...	+1	-1	...	...	-2	-4

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Madras	Salem	5	..	5	1	..	..	..
	Total of preceding year	4		4	1	..	2	2
	Difference	+1		+1		..	-2	-2
	MAGNESITE.							
Bombay	Kaira	1	..	1		..	1	1
	Total of preceding year	2		2	..	1	1	1
	Difference	-1		-1		-1	..	..
HAUKITE.								
Bihar and Orissa	Singbhum	7	..	7	3	4	1	1
	Jubbulpore	6	..	6	1	2	2	2
Madras	Nellore	2	..	2	..	..	..	..
	STEATITE.							
United Provinces		11	..	14	9	13	13	17
	Grand Total (Steatite) for 1929	29	..	29	13	19	19	27
	Grand Total of preceding year	28	..	28	7	11	14	14
	Difference	+1		+1	+6	+8	+5	..

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES				INSPECTIONS	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year	Number of mines inspected.	Number of inspections.
					SLATE.			
Bihar and Orissa.	Monghyr	5		3	1	2	3	5
Punjab		8	...	8	1	...	..	...
	Grand Total (Slate) for 1929 .	13	..	13	2	2	5	7
	Grand Total of preceding year .	13	.	13	...	1	9	9
	Difference .		.	...	+2	+1	-1	-1
					LIMESTONE.			
Bihar and Orissa	Shahabad	11	1	10	1	3	9	9
Dombay	Fakkur	1	...	1	1	..	..	..
Burma		6	.	6		1	1	2
Central Provinces	... . . . .	19	2	17	4	2	17	18
Punjab		6	..	6	3	...	..	..
	Grand Total (Limestone) for 1929.	43	3	47	6	6	27	29
	Total of preceding year.	41	4	37	4	5	30	33
	Difference	+2	-1	+3	+4	+1	-3	-1

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act.	NUMBERS OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected	Number of inspections.
IGNEOUS ROCK.								
Bengal	Birbhum	4	1	3	..	.	..	..
Bihar and Orissa	.	39	.	29	11	12	3	3
Bombay	.	23	.	23	19	3	..	..
Barma	..	19		19	9	4	11	11
Central Provinces	Chhindwara	1		1	.	1	..	..
	Grand Total (Igneous Rock) for 1929	106	1	105	39	20	14	15
	Grand Total of preceding year	87	1	86	20	16	69	134
	Difference	+19		+19	+13	+4	-75	-119
			STONE (unspecified)					
Bihar and Orissa	.	12		12	3	8	4	4
Burma	Mergui	1	..	1	1	..	..	..
Delhi	Delhi	1	..	1	1	1	..	..
Punjab	.	11	..	12	5	..	..	..
United Provinces	.	28	.	28	6	2	31	34
	Grand Total (Stone unspecified) for 1929	54	—	54	16	11	35	55
	Grand Total of preceding year	40	—	40	5	6	26	23
	Difference	+14		+14	+11	+5	+9	+10

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES				INSPECTIONS	
			Worked under mechanical power.	Not worked by mechanical power	Opened during the year	Closed during the year.	Number of mines inspected.	Number of inspections
			LATERITE.					
Burma	"	2	"	"	"	"	"	"
Central Provinces.	Jubbulpore	3	"	"	"	1	"	"
	Grand Total (Laterite) for 1929	5	"	"	"	1	"	"
	Grand Total of preceding year.	4	"	4	"	"	1	2
	Difference	+1	"	+1	"	+1	+1	+2
			SANDSTONE					
Bihar and Orissa	Bahadur	4	"	4	"	"	1	7
Burma	Bassah	1	"	1	"	"	"	"
Central Provinces.	Jubbulpore	2	"	2	"	1	"	"
United Provinces.	"	3	"	3	1	3	11	13
	Grand Total (Sandstone) for 1929.	16	"	16	3	4	15	23
	Grand Total of preceding year.	10	"	10	1	"	5	7
	Difference	+6	"	+6	+2	+4	+10	+13
			MURUM.					
Bemlay	"	2	"	2	"	"	1	1
	Total of preceding year	2	"	2	"	"	2	4
	Difference	"	"	"	"	"	+1	+3

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power.	Opened during the year	Closed during the year	Number of mines inspected	Number of inspections
Bengal	Bardwan	3		3	2	1	1	1
FIRE CLAY								
Bihar and Orissa	. . . . .	6	1	5	...	1	3	3
Central Provinces	Jubbulpore	5	1	4	1	1	4	4
	Grand Total (Fire Clay) for 1929	11	2	13	3	3	8	8
	Grand Total of preceding year	13	2	11	2	2	5	5
	Difference	+1		+1	+1	+1	+3	+3
Bihar and Orissa	. . . . .	6	...	6	...	1	6	6
CHINA CLAY.								
Delhi	Delhi	1		1	1	1	..	...
	Grand Total (China clay) for 1929	7		7	1	2	6	6
	Grand Total of preceding year	7	1	5	2		4	4
	Difference		-2	+2	-1	+2	+2	+2
CLAY.								
Bengal	Bardwan	1	1	...	...	...	1	1
Central Provinces	Jubbulpore	1		1	..	...	1	2
	Grand Total (Clay) for 1929	2	1	1			2	3
	Grand Total of preceding year	2	1	1	...	..		...
	Difference						+2	+

APPENDIX I—*contd.*Table No. 4—*contd.*Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year	Number of mines inspected	Number of inspections.
Rajputana	Afmeer-Merwara	1	...	1	1	1	...	...
	Total of preceding year	...	...	...	...	...	...
	Difference	+1	...	+1	+1	+1	...	
	GRAPHITE.							
Madras	Kurnool	7	...	7	3	5	...	...
	Total of preceding year	6	...	6	2	3	3	3
	Difference	+1	...	+1	+3	+2	+3	+3
Punjab Orissa Madras	Baghlum	1	...	1	...	1	1	1
	Trichinopoly	1	...	1	1	...	...	...
	Grand Total (Apatite) for 1929	2	...	2	1	1	2	2
	Grand Total of preceding year	1	...	1	...	...	...	...
	Difference	+1	...	+1	+1	+1	+1	+1
	APATITE.							
	ASBESTOS.							
Madras	Chilahat	1	...	1	...	...	...	...
	Total of preceding year	1	...	1	...	...	...	...
	Difference	...	...	...	...	...	...	...

APPENDIX I—contd.

Table No. 4—contd.

Number of mines opened, closed and inspected, during the year 1929—contd.

PROVINCE.	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected	Number of inspections.
Central Provinces		2	OGRE.				1	...
	Total of preceding year	3		2	2	1	...	...
	Difference	-1		-1	-2		..	..
Bihar and Orissa	Singbhum	2	1	1	..		1	2
	Total of preceding year	..	..	..	..	..	..	..
	Difference	+2	+1	+1		+1	+1	+1
Madras		2	CORUNDUM.				2	..
	Total of preceding year	1	..	1		..	1	1
	Difference	+2	..	+2	+2	+1	-1	-2
Ujjain	Ajmer-Merwara	1	BERYL.				1	..
	Total of preceding year	2		2	2	2	1	2
	Difference	-1	..	-1	-1	-1	-1	-1
	Grand Total (Metalliferous Mines)	1,161	70	1,114	369	237	479	568
	Grand Total of preceding year.	1,732	122	1,270	358	422	479	523
	Difference	-571	-52	-156	+11	-64	+40	+39
	Grand Total (All Minerals).	1,732	452	1,280	433	369	1,016	2,388
	Grand Total of preceding year.	1,949	329	1,420	389	502	782	2,410
	Difference	-217	-77	-140	+50	-133	+234	-22

Table No. 9.

Number and type of coal-cutting machines at work in Coal Mines under the Indian Mines Act.

Maker.	British.	American.	Climax	Bar	Percussive	Power.			Total number of machines.
						Electricity.		Compressed air	
						A. C.	D. C.		
Anderson Boyes	2	"	12	"	"	2	"	"	2
Goodman	"	73	73	"	"	46	27	"	73
Hardax	"	"	"	"	"	"	"	2	2
Mavor and Coulson	60	"	16	64	"	70	1	9	80
Siskel	"	"	"	"	"	"	"	"	"
Sullivan	"	11	11	"	"	14	"	"	14
Total	86	87	105	61	4	132	28	13	173

Jharia coalfield : : : : 78 machines }
 Raniganj coalfield : : : : 91 " } Total number of square feet
 Central Provinces coalfield : : : : 4 " } undercut 9,769,640

Table No. 10.

Number of mechanical ventilators in use at Coal Mines under the Indian Mines Act.

Assam.	Bengal	Bihar and Orissa	Central Provinces	Total.
12	20	34	8	74

Table No. 11.

Number of safety lamps in use at Coal Mines under the Indian Mines Act.

Assam.	Baluchistan.	Bengal	Bihar and Orissa	Central Provinces.	Punjab.	Total.
2,362	6	9,436	8,431	2	2	20,239

950 were locked by screws, 7,453 by lead rivets, and 11,823 by magnetic means

Table No. 12.

Statement of explosives used during the year 1920 in mines under the Indian Mines Act

Name of explosive.	Quantity of explosives used, in lb., in —								Total.
	Coal mines.	Mica mines	Manganese mines	Lead ore mines	Tin and Wolfram ore mines	Limestone mines	Stone mines	Other mines.	
Dynamite	169,496	95,257	17,855	..	11,053	5,363	16,768	68,104	283,91
Gelignite	79,091	9,784	121,764	165,121	1,474	12,593	54,113	72,633	536,57
Monobel	56,212	..	..	..	..	..	..	..	56,21
Stonobel	85,377	..	..	..	..	..	..	..	85,37
Bobbinit	153	..	..	..	..	..	..	..	15
Gunpowder	2,310,393	6,671	135,329	..	952	191,705	222,073	151,068	3,018,39
Compressed gunpowder.	14,152	..	..	..	..	..	..	..	14,15
Number of detonators used.	1,436,536	760,163	727,572	370,600	107,833	54,750	201,152	539,222	4,257,51

APPENDIX II.

APPENDIX II

ACCIDENTS IN MINES.

Table No. 1.

Fatal Accidents during the year 1929.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of miner worked.	Cause of accident and remarks.
EXPLOSIONS AND IGNITIONS OF FIRE-DAMP—(3 deaths).						
1	16th April, 3-30 P.M.	Sawang mine, Dokaro P. O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways.	Karter Singh, (m), 22 Arya Singh, (m), 20 Gairda Singh, (m), 25 Sohan Gope, (m), 27 Bhims Gope, (m), 22. Bhages Singh, (m), 35.	Coal	In a pumping shaft, 65 feet deep and 8 feet in diameter, which was sunk to the door of a coal seam 50 feet thick, four men were changing a pump on a platform 50 feet from the surface. After they had been at work for seven hours the shaft was filled with fire-damp by a blower issuing from the coal at a depth of 35 feet. The four men in the shaft and two men who were at work at the top of the shaft received severe burns when the fire-damp was ignited by a match on a cigarette and six of them subsequently died. The shaft was only 10-50 feet from the face of a quarry, it was not connected to any system of underground workings, and naked lights had been used in it for over four years. Inspection and inquiry made.
2	16th May, 7-45 A.M.	Kongra mine, Kongra P. O., Assam.	Naxira Coal Co., Ld.	Abdul Jellil, (m), 48, Coal-rigger.	Coal	Two miners carrying open lights entered a narrow rise gallery and ignited an accumulation of inflammable gas. Both men were seriously burnt, and one of them succumbed to his injuries four days later. Inspection and inquiry made.
3	11th December, 9 P.M.	Ramondia mine, Sitarampur P. O., Bengal.	New Beerbloom Coal Co., Ld.	Majhar Meah, (m), 35, B-rigger.	Coal	In a mine in which inflammable gas had never been found, a driller carrying an open light entered a rise gallery and ignited an accumulation of fire-damp. He was severely burnt and died twenty-eight hours later. The gas issued from the face of an adjacent level gallery which was approaching an intrusive dyke. Inspection and inquiry made.

FALLS OF ROOF AND SIDES.

(a) Falls on roof—(99 deaths).

4	6th January, 1 A.M.	Narmadpur mine, Bundarchak P. O., Uttaral.	Equitable Coal Co., Ltd.	Bishu Pandey, (m), 24, Coal-cutter	Coal	Contrary to orders = gang of miners entered a goaf which had been fenced off. They fired a shot in the side of a pillar, and while loading the coal they had brought down a mass of stone, 25' x 9' x 1' 3', fell from the roof,—a height of 14 feet. One of the miners was struck by the falling stone and killed instantly. Inspection and inquiry made.
5	9th January, 12-30 P.M.	Loyalad mine, Jharkhand P. O., Bihar and Orissa.	Burrakar Coal Co., Ltd.	Douri Baurin, (U), 35, Loader	Coal	Decreased was sitting some 10 or 12 feet from a place where roof coal had recently been blasted, when a mass of coal and stone, 8' x 12' x 2' fell from a height of 11 feet. She was killed instantly. Inspection and inquiry made.
6	9th January, 6 A.M.	Droli mine, Dihargach P. O., Bihar and Orissa.	Droli Coal Co., Ltd.	Kheru Baurin, (U), 38, Coal carrier	Coal	Whilst a woman was loading coal on the deep side of a pillar under struction, a fall of roof occurred in the adjacent goaf. The fallen stone slid down the slope and rolled over on to her, causing injuries from which she died six days later. Inspection and inquiry made.
7	14th January, 1-15 P.M.	Bawdin mine, Narmu P. O., Birma.	Birma Corporation, Ltd.	Shain Law San, (m), 35, Miner.	Silver-lead-zinc	A miner was driving a cross-cut 7 feet x 5 feet through broken ground in an area which had been on fire when a quantity of hot fine rock fell upon him from between the supporting timbers. He was severely burned and died two days later. Inspection and inquiry made.
8	17th January, 11 P.M.	Bawdin mine, Narmu P. O., Birma.	Birma Corporation, Ltd.	Tone Kyau Cone, (m), 21, Kyan Yu Swin, (m), 23, Miner	Silver-lead-zinc	Two miners who were engaged in timbering operations near the face of a slope were killed by a mass of fine ore weighing about 15 tons which fell from the back. Inspection and inquiry made.
9	20th January, 7-30 A.M.	Harpur mine, Chora P. O., Bengal.	K. P. Chatterjee & Brothers.	Gokal Bauri, (m), 32, Loader.	Coal	A miner passed through a fence and was loading coal in a gallery when he was killed by a mass of roof coal, 35' x 22' x 1' 6', which fell from a height of 21 feet. Inspection and inquiry made.
10	21st January, 2 P.M.	Central Kirkend mine, Kusanda P. O., Bihar and Orissa.	Central Kirkend Coal Co., Ltd.	Ughni Kohn, (U), 29, Coal-carrier.	Coal	Whilst a woman was loading coal in a gallery in which roof coal had recently been cut, she was killed by a mass of roof coal, 4 feet thick, weighing about 12 tons, falling from between two concealed clips. Inspection and inquiry made.
30th January, 2-15 P.M.	Droli mine, Dihargach P. O., Bihar and Orissa.	Droli Coal Co., Ltd.	Suramani Mejhian, (U), 20, Loader.	Coal	Whilst filling a basket of coal a female loader was fatally injured by a triangular shaped mass of coal, 6' x 3' x 1' 6', which fell without warning from a height of 14 feet. Inspection and inquiry made.	

APPENDIX II—contd. **Fatal Accidents during the year 1929—contd.**

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of mineral person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
(a) Falls of roof—(93 deaths)—contd.						
12	31st January, 3.30 A. M.	Dharmajoba mine, Kusanda P. O., Bihar and Orissa	Dharmajoba Colliery Co.	Dhanu Maqbi, (m), 26, Coal-cutter	Coal	A miner was cutting roof coal in a gallery, 8 feet high when a mass of coal, 5' x 4' 6" x 1' 6", fell from a concealed "slip". He was struck by the falling coal and sustained injuries to which he succumbed three days later. Inspection and inquiry made.
13	5th February, 5.30 A. M.	Kairas mine, Kairasgarh P. O., Bihar and Orissa	Barrakar Coal Co., Ld.	Sowa Mosh, (m), 35, Khagco Mesh, (m), 32, Coal-cutters	Coal	Whilst the roof of a gallery, 5 feet high, was being dressed a mass of stone, 10' x 8' x 1', fell from between concealed "slip". A miner was killed on the spot and two others were seriously injured, one of the latter died three weeks later. Inspection and inquiry made.
14	13th February, 2.30 A. M.	South East Barabooi mine Charanpur P. O., Bengal	Maharaja of Coosimbazar.	Sakar Mesh, (m), 29, Khazial Chamar, (m), 28, Coal-cutters	Coal	Two miners entered a fenced off goaf with the intention of loading fallen coal. They were struck by a mass of roof coal, weighing about 30 cwt, which fell from a height of 15 feet. One of them was killed instantly and the other was fatally injured. Inspection and inquiry made.
15	13th February, 6 P. M.	Benahr mine, Jharis P. O., Bihar and Orissa	Standard Coal Co., Ld.	Gajudhar Doodh, (m), 50, Coal-cutter.	Coal	Whilst helping to dress down some roof coal after blasting, a miner was struck by a prop which was knocked out of position by a mass of coal, weighing 2 ■ ■ ■ tons, falling from a height of 23 feet. He was seriously injured and died four days later. Inspection and inquiry made.
16	27th February, 1 A. M.	Cherangode mine, Charambadi P. O., Madras	A. H. Gaston	Alavce, (m), 29, Head-miner.	Mica	Whilst a miner was drilling a shot hole in a tunnel which was being enlarged from 4 feet by 3 feet to 6½ feet by 6½ feet a mass of soft schist, weighing about 5 cwt, fell and killed him instantly. Inspection and inquiry made.
17	4th March, 30 P. M.	Handot mine, Dandot P. O., Punjab.	R. S. Thakurdass Ramjadas	Sardar (m), 65, Contractor.	Coal	A contractor went to the face of a long wall working and was killed by the fall of roof stone weighing about 3 cwt. Inspection and inquiry made.

APPENDIX II—contd. Fatal Accidents during the year 1929—contd.

Serial number	Date and hour of accident.	Name and situation of mine	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks
FALLS OF ROOF AND SIDES—contd.						
(a) Falls of roof—(89 dead/as) - contd.						
23	9th April, 2 P.M.	Jawal Datta mine, Jamal P. O., Central Provinces	B. B. Mathura Prasad and Mohal & Co	Panna Mishra, (m), 13, Coal-carrier.	Coal	A coal-carrier was filling a basket with coal when a mass of roof stone, $8' \times 5' \times 10'$ to $16'$ thick, fell on him from a height of $3\frac{1}{2}$ feet, killing him instantly. Inspection and inquiry made.
26	13th April, 3 A.M.	Ledo Valley mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Dukhu Goro, (m), 27, Kashi Bostom, (m), 30, Ram Prosad Gowah, (m), 21, Coal fillers	Coal	While a number of coal fillers were at work in an "opening" or chamber, $21' \times 22' \times 15'$ high a mass of coal weighing about 5 tons fell from a concealed slip in the roof. Two of the men were killed instantly and a third was fatally injured. Inspection and inquiry made.
27	3rd May, 2-30 P.M.	Lower and Upper Jharia mine, Jharia P. O., Bihar and Orissa	Khimji Doss & Sons,	Chaman Baulya, (m), 27, Coal-cutter.	Coal	Whilst at work in a gallery deceased was killed instantly by a mass of stone, $10' \times 5' \times 1' 6''$, which fell from between "slips" at a height of 9 feet. Inspection and inquiry made.
28	10th May, 1 A.M.	Abakuty mine, Katraigarh P. O., Bihar and Orissa.	Chandammall Indrakumar.	Apal Sram, Gowah, (m), 38, Coal-cutter.	Coal	Deceased was dressing down roof coal which had been loosened by blasting, when a mass of coal, $6' \times 4' \times 1' 6''$ fell on him from a height of 14 feet. He was killed instantly. Inspection and inquiry made.
29	16th May, 6 A.M.	Bawdin mine, Namta P. O., Burma.	Burma Corporation, Ltd.	Four Chinese and six Indian miners.	Silver lead-zinc	Sudden movement in the footwall of a wide lode of very soft ore caused the collapse of adjacent slopes and workings. Nine men were buried and killed instantly and another died a few hours afterwards. Inspection and inquiry made.
30	21st May, 3-15 P.M.	Datta mine, Jamardeo P. O., Central Provinces	Amalgamated Coalfields, Ltd.	Chaitto Pradhan, (m), 44, Coal-filler.	Coal	In an underground working place, $5\frac{1}{2}$ feet high, a mass of roof, $4' 6'' \times 2' 6'' \times 1' 6''$, fell from a concealed "slip". A coal loader who was working there was killed. Inspection and inquiry made.
31	26th May, 1 P.M.	Gambhira mine, Dandot P. O., Punjab.	B. S. I. Thakurdas Ramjadas.	Drab, (m), 48, Miner.	Coal	A miner went through a fence to rob coal from a long wall face from which the props supporting the roof had been removed. A mass of roof stone fell and killed him. Inspection and inquiry made.

22	12th June, 3-30 A. M.	Chowrasia mine, Bihar and Orissa.	Egtable Coal Co., Ld.	Barr Muluck, (m.), 25. Coal-cutter.	Khanda	Coal	Whilst a miner was cutting coal from a pillar he was killed by a mass of stone, 6' 6" x 2' 9" x 4", which fell from the roof—a height of 6½ feet. Inspection and inquiry made.
23	14th June, 5-20 P. M.	West Gopalchuck mine Kusunda, P. O., Bihar and Orissa.	Gopalchuck Co., Ld.	Chamra Biharpuri, (m.), 25. Coal-cutter	Coal	Coal	Whilst a miner was loading coal near the face of a pillar under extraction a mass of roof coal, 4' x 1' 6" x 9", fell from between two "slips" at a height of 18 feet. He sustained injuries which caused death two days later. Inspection and inquiry made.
24	16th June, 9-45 A. M.	Pooll mine, Dihargach P. O., Bihar and Orissa.	Droll Coal Co., Ld.	Loka Mauphi, (m.), 25. Coal-cutter Dangoo M-Juan, (f), 17. Coal-cutter	Coal	Coal	Whilst two workmen were loading a tub on a tram level they were killed by a mass of coal, 25' x 10' x 2', which fell from a "slip" in the roof—a height of 10 feet. Inspection and inquiry made.
25	27th June, 11-30 A. M.	Newton Chickli mine, Parasia P. O., Central Province.	Newton Chickli Collieries, Ld.	Bhagoo Gadariya, (m.), 25. Coal-cutter	Coal	Coal	Decreased was passing through an underground gallery when a mass of roof, 21' x 21' x 6", fell from a height of 8 feet. He was killed instantly. Inspection and inquiry made.
26	2nd July, 11 A. M.	Pat-ohna mine Bitarampur P. O., Bengal.	North Dumda Coal Co., Ld.	Barn Bauri, (m.), 19. Stone-cutter,	Coal	Coal	Whilst a miner was at work in a gallery 7 feet high a mass of shale, 16' x 5' x 1' 3", fell from between two "slips" in the roof. He was severely injured and died an hour later. As gallery had been driven parallel and adjacent to a dyke supports should have been set whether they appeared to be necessary or not. Inspection and inquiry made.
27	7th July, 12-15 A. M.	Mondarbatal mine, Assam P. O., Jengal	Chandammall Indra kumar.	Kalpada Mathari, (m.), 21. Mining Apprentice.	Coal	Coal	Decreased was sleeping in a gallery 17 feet wide and 6 feet high when a mass of coal, 25' x 17' x 10", fell from the roof and killed him instantly. Eight props had been set under the part that fell. Inspection and inquiry made.
28	15th July, 8-15 P. M.	Sectoria mine, Dihargach P. O., Bengal	Bengal Coal Co., Ld.	Giri Basuri, (f), 31. Coal-cutter.	Coal	Coal	In a place from which a pillar of coal had been extracted a fall of roof took place and knocked out a prop in an adjoining working place. A woman was struck by the prop and killed. Inspection and inquiry made.
29	20th July, 6 A. M.	Sikardah mine, Girdih P. O., Bihar and Orissa.	Hayra Coal Abso- cristion	Kanoo Rai, (m.), 37. Coal-cutter. Behari Rai, (m.), 15. Mukhi Ghatwarin, (f), 35. Sumai Musarrin, (f), 16. Coal-cutter.	Coal	Coal	In a part of a mine where pillars were being extracted a working place had become unsafe, and work in it had been prohibited. Four workmen who had entered it with the object of salvaging fallen coal were killed instantly by the fall of a large mass of roof stone. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1929—contd.

Serial number	Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks
FALLS OF ROOF AND SIDES—contd.						
(c) Falls of roof—(39 deaths)—contd.						
40	9th August, 5-40 P.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ltd.	Dulari Pasi, (J), 39, Loader.	Coal	Amper was cutting roof coal, 6½ feet thick in a gallery 2½ feet high when a mass of coal, 8' 6" x 1' x 3', fell unexpectedly. Deceased who was sitting at a distance of 18 feet was struck by a piece of coal and killed instantly. Inspection and inquiry made.
41	3rd September, 7-45 A.M.	Sitalpur mine, Dighergadh P. O., Bengal.	Bengal Coal Co., Ltd.	Meghu Baral, (m), 35, Dab Chamar, (m), 50, Prepping Mistress.	Coal	Whilst two timbermen were withdrawing props from a goaf, a mass of coal and stone, 30' x 2½' x 3½', fell from a height of 13 feet. One of the timbermen was killed instantly and the other was fatally injured. Inspection and inquiry made.
42	6th September, 10-50 A.M.	Tink mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Babu-Nandan, (m), 35, Loader.	Coal	Some loaders were removing coal from an "opening" in chamber, 15 feet high, when a number of shots were fired in an adjacent "opening" 30 yards away. Immediately after the shots were fired, a piece of coal weighing 11 lb. fell from the roof and struck one of the loaders fatally injuring him. The men should have been withdrawn from the "opening" while shots were being fired in the adjacent "opening". Inspection and inquiry made.
43	14th September, 1 A.M.	Deulbir mine, Jharis P. O., Bihar and Orissa.	Standard Coal Co., Ltd.	Toofani Singh, (m), 40, Coal cutter.	Coal	Whilst breaking up blasted coal in a gallery, deceased was struck and fatally injured by a piece of coal, 2' 6" x 1' 3" x 9" which fell from a height of 25 feet. Inspection and inquiry made.
44	4th October, 6 P.M.	Borra mine, Sitalpur P. O., Bengal.	New Beerbhoomi Coal Co., Ltd.	Paladan Kora, (m), 25, Coal-cutter; Maku Korum, (J), 45, Coal-carrier.	Coal	A miner and a coal-carrier passed through a fence and were robbing coal from the corner of a pillar when a mass of stone, 6' x 4' x 3'—9", fell on them from a height of 6 feet. The miner was killed instantly and the coal-carrier received severe injuries from which he died six days later. Inspection and inquiry made.

43	25th October, 11-20 a.m.	Charanpur mine, Charanpur P. O., Bengal.	Apar Collieries, Ltd	Mahadi Tewari, (m), 10, Labourer	Coal	Whilst a propping cooly was anisling to erect some props at the edge of a goaf he was struck by a piece of coal, 4' x 4' x 2' 6" which fell from the roof—a height of 14 feet. He was struck and fatally injured. Inspection and inquiry made
46	15th October, 1 p.m.	Datta mine, Jannordeu P. O., Central Provinces	Amalgamated Coalfields, Ltd	Dorgo Dhumran (U), 14, Rutna Gondan, (U), 18, Nawada Furdan, (U), 35, Munali Furdan, (m), 17, Cool filters	Coal	Contrary to orders a sirdar allowed two miners and several coal-fillers to work in a gallery in which the manager had stopped work on the previous day. Whilst the gang was at work a mass of stone, 13' x 9' x 8', fell from the roof—a height of 24 feet. Four of the coal fillers were killed instantly, and two were injured. Inspection and inquiry made
47	21st October, 10 a.m.	Mahakali mine, Chanda P. O., Central Provinces.	Hajetbhoy Laljee & Co	Bakuloo, 15, (m), Labourer.	Coal	A coal-filler was sitting by the side of a gallery when he was struck and fatally injured by a piece of roof coal, 2' x 2' x 4', which fell from a height of 3 feet. Inspection and inquiry made.
48	18th November, 12-30 a.m.	Amiabadi mine, Jhalga P. O., Bihar and Orissa	Eastern Coal Co., Ltd	Ibrahim Meah, (m), 29, Machine coal driver. Tusa Ghatwarrn, (U), 40, Coal carrier	Coal	Whilst coal was being cut and loaded in a machine cut gallery a mass of undercut coal, 13' x 3' x 2'—8', fell from a height of 5 feet. A miner was killed outright and a woman was fatally injured. The overhanging coal had been spregged, but the springs failed to prevent its fall. Inspection and inquiry made
49	14th November	Akhalpur mine, Charanpur P. O., Bengal	Hurrahadi Coal Co., Ltd	Lachu Kola, (m), 35, Clothes-cutter Batu Kola, (m), 28, Anin Parikh (m), 24, Cool-carriers	Coal	Whilst roof coal was being got down in a depilating area in a seam 9 feet thick a mass of coal, 20' x 10' x 1' to 4' thick, fell without warning from the roof. Two miners who were loading baskets with coal under the edge of the roof coal which fell were crushed and killed instantly and another was fatally injured. Inspection and inquiry made.
50	10th November 2-30 a.m.	Strampur mine Girdih P. O., Bihar and Orissa.	East Indian Rail- way	Kehar Chamar, (m), 24, Sukhan Manjha, (m), 40 Abdul Meah (m), 27, Panna Dowadham, (U), 18, Dakha Dowadham, (f), 20	Coal	Preparatory to its extraction a pillar of coal, 50 feet square, had been split into four. The splits were being timbered when one of the four quarters of the pillar adjoining an old goaf crushed out. The debris were buried and killed. Subsequent inspection showed that the collapse was due to the fact that on three sides of the quarter pillar there were "slips" which could not have been detected beforehand. Inspection and inquiry made

APPENDIX II—*contd.*Fatal Accidents during the year 1923—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>						
(a) Falls of roof—(99—<i>deaths</i>)—<i>contd.</i>						
51	3rd December, 1 P.M.	Bararoo (No. 2 Division) mine, Jalapa P. O., Bihar and Orissa.	East India Coal Co., Ltd.	Tetram Chamar, (m.), 36, Coal-carrier.	Coal	A shot had been fired in the roof of a gallery and the roof had been tested and was considered to be safe. A loader entered the place and was about to commence loading when a mass of coal, weighing about 6 cwt., unexpectedly fell from a height of 8 feet and killed him instantly. 104— <i>Inspection and inquiry made.</i>
52	8th December, 4-30 A.M.	Alkusa and Kika mine, Kusenda P. O., Bihar and Orissa.	Kanga & Co.	Musadi Meah, (m.), 39, Coal-carrier.	Coal	Whilst loading coal which had been blasted down from the corner of a pillar about half an hour previously, a miner was fatally injured by a mass of roof-coal, 5' 6" x 1' 5" x 10', which fell unexpectedly from a height of about 10 feet. <i>Inspection and inquiry made.</i>
53	10th December, 3 P.M.	Lodna mine, Barua P. O., Bihar and Orissa.	Lodna Colliery Co. (1923), Ltd.	Junna Singh, (m.), 36, Abhee Mahito (m.), 20, Soom Mahawan, (f.), 23, Neesa Mahiwan, (f.), 45, Renu Mahiwan, (f.), 25.	Coal	Four miners and five coal-carriers were working in a gallery, when a mass of roof stone, 20' x 12' x 8'-1' 6", fell from a concealed "slip" at height of 21 feet. Four of the carriers and one of the miners were killed on the spot and another miner was severely injured. <i>Inspection and inquiry made.</i>
54	10th December, 8-45 P.M.	Jammita mine, Charagpur P. O., Bengal.	Equitable Coal Co., Ltd.	Bachan Singh, (m.), 39, Machine man	Coal	A man in charge of coal cutting machine was at work in a gallery 7 feet high when he was struck and seriously injured by a wedged shaped mass of coal, 4' x 1' 6" x 3', which fell unexpectedly from between two "slips" in the roof. The injuries caused death two weeks later. <i>Inspection and inquiry made.</i>
55	18th December, 4-45 P.M.	Badwin mine, Nantu P. O., Burma.	Burma Corporation, Ltd.	Jaga Naik, (m.), 40, Miner.	Silver-lead-zinc	Decayed was killed by a fall of roof in an underground slope. <i>Inspection and inquiry made.</i>

56	12th December. 5-50 A.M.	Chaurapur mine, Chaurapur P. O., Bhagal.	Asam Collieries, Ld	Dharika Turi, (m.), 32. Coal-carrier.	Coal	In spite of orders to the contrary, two miners working in a depairing area, in a seam 18 feet thick fired a shot in some overhanging roof of coal. The shot proved ineffective. While one of the miners went to find the sirdar, the other entered the place and was killed by a mass of coal, weighing about 12 tons, which fell from the roof. It was presumed that deceased had mounted a ladder, and was attempting to lever down the overhanging coal. Inspection and inquiry made.
57	24th December, 6-15 A.M.	East Nandi mine, Toposa P. O., Bungul.	East Nandi Coal Co. Ld	Bidhan Santal, (m.), 21. Coal-carrier.	Coal	For a natural purpose two miners went through a fence into a gallery in which the roof was insecure. A mass of stone, 26' x 11' x 1', fell from the roof killing one man and seriously injuring the other. Inspection and inquiry made.
58	25th December, 9 A.M.	Tirap mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld	Ischu Parsi, (m.), 31. Coal-carrier.	Coal	A miner was cutting coal in an "opening" chamber, 7 feet high, when the sirdar preset heard sounds of movement, and ordered him to leave the "opening." As he was doing so he was struck and seriously injured by a piece of stone which fell from the roof. Pneumonia supervening he died nine days later. Inspection and inquiry made.
59	24th December, 6-50 A.M.	Moonahvi mine, Ghatila P. O., Bihar and Orissa	Indian Copper Corporation, Ld	Surja, (m.), 30; Bun Bahadur, (m.), 30, 1 Tinkorri	Copper	Whilst men were at work in a slope a mass of stone, 15' x 15' x 3', fell from a "slip" in the hanging wall at a height of about 7 feet. Two men were killed and one was injured. Inspection and inquiry made.
60	24th December, 10-30 A.M.	Aldhi mine, Buxampur P. O., Jhargul	Aldhi Coal Co., Ld.	Estani Bauria, (f.), 28. Coal-carrier	Coal	Whilst a coal-carrier was loading a basket in a gallery she was struck by a piece of coal, 2' x 1' 6" x 6", which fell from the roof—a height of 8 feet. She sustained injuries which subsequently caused death. Inspection and inquiry made.
61	1st January, 3 A.M.	Puckree mine, Khandia P. O., Bihar and Orissa	Eastern Coal Co., Ld	Bhola Dasadh, (m.), 33, Sabram Dasad, (m.), 25. Coal-carrier.	Coal	Whilst two miners were loading coal in a working gallery, 15' wide and 14' high, a slab of coal, 14' x 8' x 1' 6", fell on them from the side. They were killed instantly. Inspection and inquiry made.
62	1st January, 1-50 P.M.	Upper Jansagra mine, Jharin P. O., Bihar and Orissa.	New East India Press Co., Ld	Surji Mahi, (m.), 23. Coal-carrier	Coal	A miner although not authorized to fire shots fired a shot in a gallery. Whilst he was dressing down the coal after blasting a mass of coal fell on him from a "slip" in the side. He sustained serious injuries to which he succumbed twelve hours later. Had he waited for the authorized shot-firer to fire the shot the accident might have been avoided. Inspection and inquiry made.

(b) Falls of sides—(See deaths.)

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>					
(b) Falls of sides—(54 deaths)—<i>contd.</i>					
63 4th January, 3-30 P. M.	Belam & Simaritari (Prospecting) mine, Bajaur P. O., Bihar and Orissa.	Chattu Ram Dasran Ram.	Tedar Rai, (m), 30, Labourer.	Mica	Whilst at work in an open excavation deceased was buried under a mass of earth, 12' x 9' x 6', which fell from the side. He received injuries to which he succumbed about an hour later. Inspection and inquiry made.
64 9th January, 4-30 P. M.	Donabir mine, Jharra P. O., Orissa.	Standard Coal Co., Ld.	Surja Pasi, (m), 50, Lodger.	Coal	Whilst loading coal underground a miner was struck and fatally injured by a piece of coal, weighing about 50 lb., which fell unexpectedly from a height of 25 feet. Inspection and inquiry made.
65 26th January, 1-30 A. M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Donlat Chamar, (m), 32, Coal-cutter	Coal	Whilst dressing the corner of a reduced pillar of coal in a depillaring section a coal-cutter caused a mass of coal, weighing about 1½ tons, to fall away from a cleat. Some of the coal fell on him from a height of 7 feet, and he sustained a fracture of the spine. He died ten days later. Inspection and inquiry made.
66 29th January, 2 P. M.	Square No. K-32 mine, Kandarna P. O., Bihar and Orissa.	Brindaban Industrial Syndicate, Ld.	Bhatra Turi, (m), 21, Miner.	Mica	At a time when work in the mine was stopped for a week-end rest day, a miner went through a fence and entered an unused old shaft for the purpose of robbing mica. Whilst he was engaged in extracting a book of mica from the side of the shaft a mass of stone fell. He was struck on the head by a lump of stone, 3' x 2' x 1' 3", and was killed instantly. Inspection and inquiry made.
67 29th January, 7 P. M.	Harriladhi mine, Jaiskora P. O., Bihar and Orissa.	Equitable Coal Co., Ld.	Khepi Mehlhan, (m), 35, Coal-carrier.	Coal	Whilst engaged in carrying coal from a working place, a woman was struck and fatally injured by a mass of coal, 6' x 4' x 9", which fell from the side of a pillar. Inspection and inquiry made.
68 29th January, 5 P. M.	Inland (Yaroon) mine, Mergui P. O., Burma	Mergui Tin Dredging Co., Ld.	Ah Khut (m), 50, Miner.	Tin	After undercutting a face, 12 feet high, to a depth of 2 feet the foot of the face whilst he proceeded to within 15 feet of the face to remove stones from the end of a slicing drain. A mass of earth, 18' x 12' x 4', which fell from the face buried him and he died from suffocation before he could be released. Inspection and inquiry made.

69	31st January, 4 P. M.	Madanbhai mine, Kharagbhai P. O., Bihar and Orissa.	D Storrs	Bism Manjha, (m.), 24, Labourer.	Mica	Whilst a workman was engaged in clearing debris from an old quarry, 15 feet deep, a fall of side, $12' \times 10' \times 2'$, occurred. He was buried under the falling earth and suffocated. Inspection and inquiry made.
70	27th February, 3-30 P. M.	Parbati mine, Dahergarh P. O., Bihar and Orissa.	Bengal Coal Co., Ld.	Takoor Manjha, (m.), 20, Coal-cutter	Coal	Near the face of a gallery 10 feet wide \times 8 feet high, a miner was resting on the handle of his pick when a slab of coal, $10' \times 7' \times 1'$ thick, fell from the side. He fell on the handle and sustained internal injuries which caused death four days later. Another miner was injured by the falling coal. Inspection and inquiry made.
71	27th February, 5-30 P. M.	Kandoli mine, Kandoli P. O., Bombay	Mugaseth & Sons	Abu Baga, (m.), 25, Potanna Rajuna (m.), 38, Labourers	Murrum	A fall of side occurred in a cutting, about 7 feet deep, in which persons were working. Two were buried by the fall and received fatal injuries. Inspection and inquiry made.
72	7th March, 8-15 A. M.	Burul (No. 2 Division) mine, Jalgaon P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Gaya Ram Kurni, (m.), 55, Leader.	Coal	In a seam 23 feet thick a loader was filling a basket with coal near the foot of a pillar under extraction when a miner wedged a mass of some 1 to 2 cwt. of coal from the side of the pillar. This coal fell from a height of 8 feet and struck the loader, who sustained a fractured skull and died eight hours later. Inspection and inquiry made.
73	12th March, 4-50 P. M.	Tangrun mine, Tangrun P. O., Birma.	Oman & Co	Ko Shew Hiang, (m.), 50, Quarryman	Stones	Whilst a quarryman was larring stones off the lower part of the face of a quarry, a block of stone, $4' \times 3' \times 2'$, rolled on to his left leg, crushing it severely. He died two hours later. Inspection and inquiry made.
74	13th March, about 3-50 P. M.	Karancee mine, Biswara P. O., Bihar and Orissa.	Eastern Coal Co., Ltd.	Lahram Manjha, (m.), 21, Coal-cutter	Coal	Deceased was killed by a mass of coal weighing about 8 tons which fell from the side of a pillar. Inspection and inquiry made.
75	15th March, 11-15 P. M.	Bhalgora mine, Janta P. O., Bihar and Orissa.	Bhalgora Coal Co., Ltd.	Boran Kabat, (m.), 35, Coal-cutter	Coal	Deceased was dressing down coal from the side of a pillar after blasting when a mass of coal, weighing about 1 cwt., fell on him from a height of four feet. He sustained injuries to which he succumbed five days later. Inspection and inquiry made.
76	15th April 10-30 A. M.	Kalidhan Gurgaon mine, Bhoyabai P. O., Bihar and Orissa.	K B Seal & Sons	Mugli Surra, (f.), 23, Coal-carrier	Coal	Deceased was killed by a mass of coal, $10' \times 3' \times 2'$, which fell from a "slip" in the side of a pillar at a height of 6 feet. A miner working nearby was injured. Had the side of the pillar been properly dressed down the accident would have been avoided. Inspection and inquiry made.

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>					
(b) Falls of sides—(54 deaths)—<i>contd.</i>					
77 23rd April, 3 P. M.	Meenakshimudaram Sydspuram P. O., Madras.	P. V. Raghava Reddi.	Sheik Kasim Sahab, (m), 22, Lakshur.		Deceased was walking along a path leading down into an open excavation when the pathway collapsed. He fell a distance of 12 feet and was fatally injured. Had the sides of the excavation been properly stopped or sloped the accident would have been avoided. Inspection and inquiry made.
78 25th April, 12-15 P. M.	West Gopalchuck Kuvunda P. O., Bihar and Orissa.	Gopalchuck Coal Co., Ltd.	Gohardhan Mahar, (m), 37, Timberman.	Coal	Seven persons were ascending a shaft 16 feet diameter and 340 feet deep, in a cage, and had reached a point 180 feet from the surface when a mass of stone 1' 0" x 1' 6" x 6", fell from a "slip" in the side of the shaft at a depth of 50 feet and, striking the cage, broke through the sheet iron cover. One man was forced beneath the horizontal bars of the cage gate and fell to the bottom of the shaft. Another was struck by the stone and seriously injured. Inspection and inquiry made.
79 30th April, 11 A. M.	Pathapara mine, Palasur P. O., Bihar and Orissa.	Shardhan Tewari	Litua Mochi, (m), 27, Stone dresser.	Stone	Whilst a stone dresser was excavating along from a quarry 12 feet deep, he was struck by a mass of boulders which fell from the side, a height of 6 feet. He was struck and fatally injured. Inspection and inquiry made.
80 2nd May, 12-30 A. M.	Bhugraidih mine Jharra P. O., Bihar and Orissa.	Bengal-Nagpur Coal Co., Ltd.	Pravoo Meah, (m), 45, Coal-cutter	Coal	Whilst working in a depillaring district deceased was struck on the back by some coal weighing about 56 lb. which fell from the end of a pillar. He sustained serious injuries and died six days later. Inspection and inquiry made.
81 3rd May, 12-30 P. M.	Mokok Valley (Fajouk) mine, Mokok P. O., Burma.	Burma Ruby Mines, Ltd.	Aik Pyin, (m), 50, Atributor.	Rabbies	In jumping aside to avoid a boulder which he had dislodged from the face of a quarry deceased fell on a sharp pointed rock. He received injuries from which he died two months later. Inspection and inquiry made.

29	7th May, 1 P. M.	Kalatak mine, Kalahar P. O., Punjab.	Government India	of Ghulam Hassan, (m.), 35, Miner.	Salt	A miner was sorting salt which had been blasted from the side of a chamber when a piece of salt, weighing about 2 lb., fell from a point 30 feet above and struck him on the head inflicting fatal injuries. Had the place been carefully examined after the blasting the accident might have been avoided. Inspection and inquiry made.
31	12th May, 5-30 A. M.	Amliad mine, Jadgora P. O., Bihar and Orissa	Eastern Coal Co., Ld.	Dakhan Mahato, (m.), 33, Coal cutter.	Coal	A mass of coal weighing about one ton fell from the side of a tranning level and striking deceased, fatally injured him. Inspection and inquiry made.
32	16th May, 4 P. M.	Chenaila mine, Paibardh P. O., Bihar and Orissa	Chenaila Coal Co	Joti Barri, (m.), 35, Coal cutter.	Coal	Deceased was cutting floor coal in a gallery when a mass of coal, 3' x 4' x 3', fell from between two concealed and converging "elips" at a height of 6 feet. He was killed instantly. Inspection and inquiry made.
33	27th May, 2 P. M.	Angarpathra mine, Katurgarh P. O., Bihar and Orissa.	Union Coal Co., Ld	Chota Mesh, (m.), 27, Coal-cutter.	Coal	Whilst deceased was loading coal from a pillar under extraction he was struck by a mass of coal, weighing about 1 cwt., which fell from the side at a height of 8 feet. He sustained injuries to which he succumbed about a month later. Inspection and inquiry made.
34	31st May, 4-30 A. M.	Sekba (Sq 24g) mine, Kodarma P. O., Bihar and Orissa.	R. K. Sahana & Sons	Dilloo Gope, (m.), 32, Miner.	Mica	Whilst at work in the bottom of a mine two miners were seriously injured by a mass of stone, 4' 6" x 6" x 1' which fell from the side. One of them died eleven days later. Inspection and inquiry made.
35	31st May, 5 P. M.	Chowmatia mine, Diehargah P. O., Bihar and Orissa	Exploitable Coal Co., Ld	Tarn Manjhi, (m.), 30, Coal-cutter.	Coal	Whilst a miner was sitting at the face of a pillar, which was in course of extraction, a piece of coal, 3' x 1' 6" x 6", fell from a height of 5 feet. Life received injuries from which he died. Inspection and inquiry made.
36	12th June, 11 noon	Damagurria mine, Kulti P. O., Bengal.	Damagurria Coal Co., Ld.	Sitaran Gope, (m.), 35, Coal-cutter	Coal	When a pillar of coal on the edge of a large quarry had been reduced to small dimensions it collapsed and a mass of coal, 67' x 12' x 15', fell away from a "slip," which ran parallel to the face of the quarry. A miner, who was at work on a bench 17' above the floor of the quarry, fell with the falling coal and was fatally injured. The accident would not have occurred if underground workings had not previously been made. Inspection and inquiry made.
37	16th June, 1-30 A. M.	Denabir mine, Jharin P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Kamabi Karain, (U.), 30, Coal-carrier.	Coal	Whilst loading coal a female coal-carrier was struck and killed instantly by a mass of coal weighing about 24 tons, which fell from the corner of a pillar which had been loosened by blasting. Had she and her companions remained in their proper working place the accident would not have occurred. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1920—contd.

Serial number.	Date and hour of accident	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—contd.						
(b) Falls of sides—(54 deaths)—contd.						
20	19th June, 2 p.m.	New Kusunda mine, Kusunda P. O., Bihar and Orissa.	New Kusunda Col- liery, Ltd.	Dami, (f), 17, Coal-carrier.	Coal	Whilst deceased was loading coal in a quarry at a "face" which had been undercut, a mass of coal and earth, 20' x 3' 6" x 3' fell from the side. She was buried and suffocated. Inspection and inquiry made.
21	25th June, 10 a.m.	Tangrauli mine, Tavoy P. O., Burma.	Consolidated Tin Mines of Burma, Ltd.	Bale Singh, (m), 35, Tribal.	Tin and Wolfram	Whilst engaged in sluicing operations on the side of a hill deceased released a large boulder which rolled down and fatally injured him. Inspection and inquiry made.
22	25th June, 11.30 p.m.	Neamatpur mine, Sitarampur P. O., Bengal.	Equitable Coal Co., Ltd.	Sisal Maubhi, (m), 50, Coal-cutter.	Coal	A miner went through a fence and was robbing coal from the corner or pillar when he was struck and killed by a mass of coal weighing about half a ton which fell from a height of 6½ feet. Inspection and inquiry made.
23	5th July, 6.30 a.m.	Sidpur mine, Kalyansahi P. O., Bengal.	Lodna Colliery Co. (1920), Ltd.	Ketas Bibi (f), 22, Coal-carrier	Coal	Whilst a woman was loading a basket with coal in a machine-out gallery, 6½ feet high, a mass of coal, 8' x 3' x 3', fell from the face near the roof, killing her instantly. Had the over-hanging coal been properly dressed down after blasting the accident would not have occurred. Inspection and inquiry made.
24	7th July, 11 a.m.	Heida mine, Tavoy P. O., Burma.	Anglo Burma Tin Co., Ltd.	Nyan Kun, (m), 35, Labourer	Lead Silver	Whilst two miners were erecting a set of timber at the entrance to an adit a fall of earth occurred and one of them was pinned between the post and the side of the adit. He died a few hours later. Inspection and inquiry made.
25	12th July, 7 a.m.	Lodna (4 & 5 pits) mine, Jharra P. O., Bihar and Orissa.	Lodna Colliery Co., (1920), Ltd.	Jiton Meah, (m), 32, Coal cutter.	Coal	Whilst a miner was dressing the side of a pillar a mass of coal, 4' x 3' x 1' 6", fell on him from a height of about 6 feet, inflicting fatal injuries. A loader who was working near by was seriously injured. Inspection and inquiry made.
26	15th July, 11 a.m.	Mayangon mine, Tangson P. O., Burma.	Uradim, Contractor	Ban Deias, (m), 20, Miner.	Stone	Whilst levering stone from the face of a quarry deceased overbalanced and fell to the bottom of the quarry—a distance of 15 feet. He was struck and killed by a piece of stone which fell with him. Inspection and inquiry made.

114	15th 1 p. m.	18th July	Baharat Hameetha mine, Tumara (long) P. O., Central Province	Ras Sahab Gowardhandra	Thomas Gordini, (m.) 36, Labourer	Manganese	Whilst two women were at work in an open excavation, 6 feet deep, a mass of shale, $11 \times 4 \times 1 \frac{1}{2}$ ft., fell and buried them. One of them was suffocated and the other suffered slight injuries. Inspection and inquiry made.
115	20th about 4 p. m.	1st July	Leysah mine, Hansar P. O., Bihar and Orissa	Harrakur Coal Co., Ld.	Janka Pasi, (m.) 28, Coal-cutter	Coal	A miner was standing on a ladder dressing the side of a pillar when a mass of coal, $11 \times 4 \times 1 \frac{1}{2}$ ft., fell and buried him. He fell to the ground and sustained injuries from which he died two days later. Inspection and inquiry made.
116	27th 5.30 p. m.	28th August	Dreoli mine, Bishnupur P. O., Bihar and Orissa	Dreoli Coal Co., Ld.	Nahul Bantri, (m.) 35, Coal-cutter	Coal	Whilst "ribbing" coal from a pillar at the side of a loading level a miner was fatally injured by a mass of coal weighing about $\frac{1}{2}$ ton, which fell from the side. Inspection and inquiry made.
117	28th 10 a. m.	28th August	Kalshani Ghorason mine, Bhojpath P. O., Bihar and Orissa	K. B. Sial & Sons	Chantoo Biharspur, (m.) 36, Coal-cutter	Coal	Decomposed was cutting coal from the side of a pillar when a mass of coal, $5 \times 3 \times 3$ ft., fell upon him. He sustained injuries, to which he succumbed eight days later. Inspection and inquiry made.
118	28th August 9 a. m.	28th August	Baghara mine, Bishnupur P. O., Bihar and Orissa	Bengal Coal Co., Ld.	Horabans Nooman (m.) 31, 34 Clasp-carrier	Fire clay	Whilst working in a section of a quarry in which working had been prohibited deceased was struck and fatally injured by a slab of clay, $2 \times 1 \times 1 \frac{1}{2}$ ft., which fell from the side at a height of about 7 feet. Inspection and inquiry made.
119	29th August 4 p. m.	29th August	Dobari mine, Sharia P. O., Bihar and Orissa	Keshabji Pitamber Aiyas	Sohn Bantri, (m.) 35, Coal-cutter	Coal	Decomposed was dressing down some overhanging coal from the side of a pillar when a mass of coal, about $3 \times 3 \times 3$ ft., fell from a height of 12 feet. He was killed on the spot. Inspection and inquiry made.
120	17th September 9 a. m.	17th September	Katha (Vogek) mine, Khatyap P. O., Bihar	Burma Ruby Mines, Ld.	Aung Lun, (m.) 23, Miner	Rubies	In the process of sloping the sides of an open excavation a large fall of earth occurred. Deceased was buried and suffocated. Inspection and inquiry made.
121	28th September 12 noon	28th September	Hawdwin mine, Nanta P. O., Birma	Burma Corporation, Ld.	Woo Hiao Chun, (m.) 25, Miner	Silver-lead-zinc	Whilst deceased was working in an underground slope a mass of ore fell from the face and earned away the mine on which he was standing. He fell a distance of 12 feet, and was killed instantly. Inspection and inquiry made.
122	13th October 6 a. m.	13th October	Choto Dhemu mine, Bishnupur P. O., Bihar	Bengal Coal Co., Ld.	Banant Kolo, (m.) 40, Coal-cutter	Coal	Whilst a miner was dressing the side of a pillar in a seam 14 feet thick a mass of coal, $2 \times 1 \times 9$ ft., fell on him from a height of 7 feet and caused injuries from which he died two hours later. Inspection and inquiry made.
123	9th October 1 p. m.	9th October	Borra Dhemu mine, Bishnupur P. O., Bihar	Borra Dhemu Coal Co., Ld.	Monsi Nahata, (m.) 45, Coal-cutter	Coal	Whilst a miner was resting in a depollaring area a mass of coal fell off the side of a pillar 8 feet away from him and dislodged a prop 12 feet long. The falling prop struck him and caused minor injuries. He died from tetanus fourteen hours later. Inspection and inquiry made.

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
FALLS OF ROOF AND SIDES—<i>contd.</i>						
(c) Falls of sides—(64 deaths)—<i>contd.</i>						
107	11th October, 9-30 A.M.	Kutchchilhas mine, Sasnar P. O., Central Provinces.	Indian Manganoose Co., Ltd.	Vaila Iddar, (m.), 30, Drifter.	Manga- nese.	In a level 12 feet high a driller was holding candle for a shotfirer who was dressing down some loose ore from the side when a small piece of ore fell and extinguished the candle. In trying to recover the candle the driller was struck and killed instantly by a piece of ore, 3' 1' x 6", which fell from a height of 5 feet. Inspection and inquiry made.
108	5th October, 2-30 A.M.	Upper Jungora mine, Jharia P. O., Bihar and Orissa.	New East India Press Co., Ltd.	Jagan Rai, (m.), 35, Coal-cutter.	Coal.	Deceased was cutting floor coal in a gallery when a mass of coal, 12' x 10' x 12", fell on him from a "slip" at a height of 8 feet in the side of an adjoining pillar. He was killed instantly. Inspection and inquiry made.
109	4th November, 1 P.M.	Hurilash mine, Jharia P. O., Bihar and Orissa.	Equitable Coal Co., Ltd.	Sukhrum Kari, (m.), 36, Coal-cutter.	Coal.	A miner, after firing a shot in the side of a pillar of coal, returned to inspect the place when a mass of coal, weighing about 1 ton, fell upon him from the side of the pillar. He was fatally injured. Inspection and inquiry made.
110	7th December, 10 P.M.	Barare mine, Jharia P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Saroda Banrin, (f), 40, Coal-carrier.	Coal.	A woman passed through a fence and entered a gallery in which work had been prohibited. Whilst loading coal there she was fatally injured by a mass of coal, 2' 3' x 1' 3' x 10", that fell on her from the side at a height of about 10 feet. Inspection and inquiry made.
111	12th December, 0-15 A.M.	Ronalur mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ltd.	Ramabhar Pashai, (m.), 30, Coal-cutter.	Coal.	Whilst lowering down the fractured corner of a pillar of coal, a miner was killed by a mass of about 2 tons of coal falling on him from the side at a height of about 7 feet. Inspection and inquiry made.
112	19th December, 2-30 P.M.	Benaur mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ltd.	Romachun Chamar, (m.), 40, Coal-cutter.	Coal.	After blasting had been done a miner was testing the fractured side of a pillar when a piece of coal, 3' 2' x 2' 3', slid down the testing pole and struck him so violently that he died within half an hour. Inspection and inquiry made.

IN SHAFTS (FALLING DOWN SHAFTS)—(8 deaths).

113	2nd January, 6:40 P. M.	Darrn (No 1 Division) mine, Jalgaon P. O., Bihar and Orissa.	East Indian Co., Ltd.	Sakdeo Jostwara, (m.), 27, Trenner.	Coal	For a purpose unknown deceased left his appointed working place in an upper seam, and, after passing through two fences, fell to the bottom of a shaft—a distance of 85 feet. He sustained injuries to which he succumbed eight hours later. Inspection and inquiry made.
114	5th January 10 P. M.	Rampur mine, Rampur Colliery P. O. Bihar and Orissa.	Hingor Rampur Coal Co., Ltd.	Bhokhal Rout, (m.), 35, Chircoo Rout, (m.), 30, Trolleyman	Coal	At the top of a shaft 115 feet deep two trolleyman were pushing a loaded tub off the trolley when the latter moved forward a distance of about 18 inches, thus uncovering the top of the shaft. Both men fell to the bottom of the shaft and were killed instantly. 'Dogs' and catches had been provided. If they had been properly set the accident would have been avoided. Inspection and inquiry made.
115	21st January, 11 A. M.	Ghusack mine, Kulsihar P. O., Bengal.	Ghusack Coal Co.	Abunash Adhikari, (m.), 25, Assistant filter.	Coal	Two filters were testing a sinking pump suspended in a waterlogged shaft when the joint of a steam pump burst. One of the men was scalded and fell into the water. In attempting to rescue him the other man fell into the water and was drowned. Inspection and inquiry made.
116	21st April 8 A. M.	Mawson (Bodwings) mine, Ilcho P. O., Birma	Steel Brothers & Co., Ltd.	Siam Lal, (m.), 33, Miner	Local Silver	While descending a ladderway in a shaft 100 feet deep deceased fell from about half way down and was killed. Inspection and inquiry made.
117	11th July, 7 A. M.	West Gopalchuck mine, Kusanda P. O., Bihar and Orissa	Gopalchuck Coal Co., Ltd.	Rahamali, (m.), 22, Lascarer	Coal	A labourer was at work in an inset 37½ feet above the bottom of a shaft. There was a platform from which a plank had been removed on the previous day. Failing to notice the hole in the platform he fell to the bottom of the shaft and was killed.
118	14th July, 3 A. M.	Monohar Bahal mine, Arunod P. O., Bengal	Chandammall Indre- kumar	Fakir Dasguth (m.), 29, Bankman	Coal	The plant should have been replaced or access to the platform prevented by fencing. Inspection and inquiry made.
						The bankman at the top of a shaft failed to put the keps in position for landing the cage. The cage therefore descended a distance of some 8 feet before the engineman could stop it. The bankman who had commenced to push a loaded tub out of the cage before the cage had been lowered on to the keps fell to the bottom of the shaft 300 feet below and was killed instantly. The bankman should not have attempted to withdraw the tub until the keps had been brought to rest on the keps. Had the keps been weighted so that they fell into position automatically the accident would have been avoided. Inspection and inquiry made.

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
IN SHAFTS (FALLING DOWN SHAFTS)—<i>contd.</i>						
119	29th December, 3 P. M.	Polphulawa mine, Turi P. O. Bihar and Orissa.	F. F. Christien & Dhatu Rai, Co., Ltd. (m.) 21. Unskilled miner	Mica		Whilst climbing down a ladderway in a shaft, 60 feet deep, deceased fell to the bottom of the shaft and was killed instantly. Inspection and inquiry made.
IN SHAFTS (THINGS FALLING DOWN SHAFTS)—(2 deaths).						
120	17th April, 8-45 P. M.	Kendrabali mine, Kumada P. O. Bihar and Orissa.	East Indian Coal Co., Ltd.	Danahi Turi, (m.) 34. Trolleyman.	Coal	A trolleyman was in the act of pulling out an empty tub from a cage standing at the bottom of shaft, 308 feet deep, when he was struck on the head and killed by a piece of coal, weighing about 3 lb., which had fallen from the surface. Inspection and inquiry made.
121	22th September, 5 A. M.	Sripur mine, Kalipahari P. O., Jhargal.	Lodna Colliery Co. (1920), Ltd.	Tara Singh Manjhi, (m.) 25. Sweepman	Coal	After a guide rope had broken at the bottom of a shaft 675 feet deep, the broken end was lifted to the surface by one of the cages, thus leaving a loop suspended in the shaft. At about midshaft a piece of bunton, 8' x 1' x 4", was struck and lodged by the loop. A shaftman ceasing the bottom of the shaft at the time was struck by the falling bunton and fatally injured. Inspection and inquiry made.
IN SHAFTS (MISCELLANEOUS)—(3 deaths).						
122	21th February, 8-50 A. M.	Bhobulbhi mine, Giridih P. O., Bihar and Orissa.	Bengal Giridih Coal Co., Ltd.	Tufani Mesh, (m.) 42. Ossifier.	Coal	Whilst attending to an inspector at the bottom of a shaft an onsetter was crushed beneath the descending cage and killed. Inspection and inquiry made.
123	7th July, 10 A. M.	Silpur mine, Cheranpur P. O., Bengal.	Katma-Jheriah Coal Co., Ltd.	Garia Dhole, (m.) 25. Coal-rider.	Coal	A miner attempted to cross the bottom of a shaft while the cages were in motion. He was struck by the descending cage and sustained serious injuries from which he died one month later. Deceased should have used the lifeline. Inspection and inquiry made.

Whist waiting at the bottom of a shaft for the cage to descend deceased put his head beyond the protection boards in order to look up the shaft. The descending cage struck him on the head and he sustained an injury which later proved fatal. Inspection and inquiry made.

Barakur Coal Co., Mahendro Doms, (m), 25, Trempner

Lonsdale mine, Bhandjora P. O., Bihar and Orissa.

124 12th July, About 9-20 P. M.

The deceased were inspecting the stopping surrounding a fire area when they were overcome by an outburst of gas from the fire area. Inspection and inquiry made.

Bhulanharve Coal, Nitay Gopal Singh, (m), 39, Oerama.

Bhulanharve mine, Bahardih P. O., Bihar and Orissa.

125 11th August 2 A. M.

Kedar Bauri, (m), 59, Sindar.

BY EXPLOSIVES—(9 deaths.)

In attempting to withdraw a mis-fired charge of 2½ m of gelignite from a vertical hole, 15 inches deep, a drill became jammed in the hole. A laborer who attempted to loosen the drill by striking it with a hammer was fatally injured when the charge exploded. Inspection and inquiry made.

Tin ore - Jung Bahadur, (m), 35, Laborer

Wagon No. 1 mine, Taro P. O., Birma.

126 23rd February, 11 Noon

While blasting was going on deceased passed the danger signal and was killed by a piece of stone projected a distance of 800 feet from the place where the shot was fired. Inspection and inquiry made.

Stone - Ramayah, (m), 50, Laborer.

Mokulain mine, Mokulain Quarries P. O., Birma.

127 20th April, 11 A. M.

Deceased was drying gunpowder in a tin over a fire on the verandah of a dwelling house when the powder became ignited. He was seriously burnt and died five days later. Inspection and inquiry made.

Coal - Jagra Gamar, (m), 38, Coal-cutter

Tarari (No. 2 Division) mine, Jalgora P. O., Bihar and Orissa.

128 29th July, 9-20 A. M.

Although warned by the shot-firer deceased entered a gallery before the third of three shots had exploded. On his reaching the gallery the third shot exploded and he was fatally injured. Inspection and inquiry made.

Coal - Dhontal Lodho, (m), 27, Coal-cutter

Datta mine, Junderco P. O., Central Provinces.

129 22nd July, 2-30 A. M.

Whilst nine men were at work in a sinking shaft an explosion took place and two of the men were killed and two seriously injured. It was presumed that one of the men had drilled into a mis-fired shot. Inspection and inquiry made.

Coal - Bhatu Menh, (m), 33, Bhatu Turi, (m), 20, Sindara.

Kankane mine, Bhandjora P. O., Bihar and Orissa.

130 31st July, 11-15 A. M.

APPENDIX II—*contd.* Fatal Accidents during the year 1929—*contd.*

Sl. No.	Date and hour of accident	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks
HAULAGE—<i>contd.</i>						
143	12th April, 6 A.M.	Dawson mine, Nanta P. O., Barma.	Burma Corporation Ltd.	Nauu Zam, (m), 45, Breakerman.	Silver, lead-zinc	Whilst a train of a loaded cars and empty trolleys was in motion the brakeman fell off and was run over, receiving injuries from which he died seven months later. Had deceased obeyed the standing instruction to ride on the last trolley in the train the accident would not have occurred. Inspection and inquiry made.
144	24th April, 2-30 P.M.	Enna Dhemo mine, Bikrampur P. O., Bongal.	Borra Dhemo Coal Co., Ltd.	Ram Kishore Singh, (m), 43, Labourer.	Coal	A number of empty tubs running uncontrolled on an underground tram line jumped into loaded tubs standing in a siding. A man who was assisting to erect a buffer in the siding was crushed between the buffer and the tubs. He was seriously injured and died a month later. Inspection and inquiry made.
145	21th April, 6-15 P.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co. Ltd.	Thamu Dome, (m), 23, Tramman.	Coal	Whilst a trammer was riding on a train of tubs in an underground haulage road the tubs were derailed. He was run over by the rear tub. He died from injuries eleven days later. Inspection and inquiry made.
146	25th April, about 7 P.M.	Loyalabad mine, Bansford P. O., Dihar and Orissa.	Barraker Coal Co., Ltd.	Kali Rai, (m), 23, Tramman.	Coal	Whilst detaching a haulage rope from a train of loaded tubs deceased fell down and was run over. He died from his injuries a few hours later. Inspection and inquiry made.
147	5th May, 5 A.M.	Bethli mine, Bunderchal P. O., Bengal.	Equitable Coal Co., Ltd.	Hahn Baur, (m), 26, Tramman.	Coal	Whilst a train of air-tail tubs was being lowered on a haulage rope from the top of a haulage road to a shaft level, a trammer who was sleeping on the track was run over and fatally injured. Inspection and inquiry made.
148	16th May, 1-30 A.M.	Anlabad mine, Jalgaon P. O., Jilhas and Orissa.	Eastern Coal Co., Ltd.	Chetu Gowaia, (m), 18, Trolleyman.	Coal	Deceased was riding on a train of tubs without permission and, in attempting to dismount, was run over and fatally injured. Inspection and inquiry made.
149	5th June, 7 P.M.	Dampagar mine, Kalt P. O., Bengal.	Bengal Iron Co., Ltd.	Jugal Prasad Lal, (m), 38, Sedar.	Coal	Whilst a train of 20 loaded tubs was being hauled up a slope of 1 in 7 a coupling chain broke and 18 of the tubs ran wild. The two tubs which remained attached to the rope became derailed and struck a sardar who was walking along the haulage road. He succumbed to his injuries seventeen hours later. Inspection and inquiry made.

120	12th June, 5-10 A.M.	Namlang mine, Margherita P. O., Assam	Assam Railways and Trading Co., Ld.	Karna Chitra, 28, (m), 45, Coal-filter.	Bahadur	Coal	In spite of being warned three miners travelled along a haulage road while a train of loaded tubs was being hauled out. One of them was run over and killed instantly. Inspection and inquiry made.
131	13th June, 2-20 A.M.	Aregda mine, Bhika P. O., Bihar and Orissa	Bengal Railway Co., Ld	Nandharay Dasguth, (m), 45, Tramway		Coal	Two trammers were pushing a loaded tub on a tramine in a quarry. At a crossing the tub was struck by a train of empty tubs which was running uncontrolled. One of the men was killed instantly by falling a distance of 12 feet to a lower bench of the quarry. Inspection and inquiry made.
132	12th June, 12 noon	Durga-Golsi mine, Margherita P. O., Assam	Assam Railways and Trading Co. Ld	Ramdhoun Passi, (m), 35, Timberman		Coal	A train of empty tubs ran off the rails at a place on a haulage road where a party of men had been erecting timber. One of the men was struck by the tubs and fatally injured. The sirdar in charge of the party had repeatedly warned the man to go into a manhole, but he had disregarded the warning. Inspection and inquiry made.
133	27th June 5-30 A.M.	Girdih P. O., Bihar and Orissa.	East Indian Rail way	Thotha Chamar, (m), 45, Coal-cutter		Coal	Whilst a miner was moving an empty tub on a level haulage road another tub was caught by a socket on the haulage rope and moved forward. The two tubs collided and deceased was knocked down and seriously injured. He died nine days later. Inspection and inquiry made.
134	2nd July 9-40 A.M.	Gartiam mine, Chirapalle P. O., Madras	Vizianagram Min- ing Co., Ld	Thaddu Sannayasi, (m), 45, Lolgoover.		Coal	Whilst three empty tubs were being lowered down a surface haulage incline dipping at 1 in 3 the front tub became uncontrolled and ran uncontrolled for a distance of about 1,000 feet. A workman who was repairing the track at the foot of the incline was struck by the runaway tub and sustained injuries from which he died two days afterwards. Inspection and inquiry made.
135	10th July 8 P.M.	New Kendah mine, Fogera P. O., Bengal.	New Kendah Coal Co., Ld.	Phalmonu Konn, (f), 19, Coal-carrier		Coal	Whilst loaded tubs were being marshalled at an inbye siding a fall tub with one wheel sprang ran away down a road dipping at 1 in 15 and struck an empty tub which a coal-carrier was tramping along an outbye siding. She was struck by the tub and received injuries from which she died thirteen hours later. Had a stop-block been provided on the loaded tub line of the inbye siding or a check catch on the empty tub line of the outbye siding the accident would have been avoided. Inspection and inquiry made.
136	13th July, 12 noon	Aregda mine, Margherita P. O., Bihar and Orissa	Bengal Railway Co., Ld	Radha Syam Bhao, (m), 30, Tramway		Coal	Whilst a trammer was placing sprags in a tub which was being re-railed the body of the tub swung over and, striking him on the back injured him so severely that he died five days later. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1929—contd.

Sl. No.	Date and hour of accident.	Name and situation of mine	Name of owner.	Name, sex, age and occupation of person killed	Name of mineral worked.	Cause of accident and remarks
HAULAGE—contd.						
137	13th September, 6 A. M.	Jogia mine, Bihar P. O., Bihar and Orissa.	Agarwal Bros.	Badia Chamar, (m.), 27, Trolleyman.	Coal	Whilst a train of 5 loaded tubs was being raised from an underground level a steam joint at the haulage engine blew out. The engineman lost control of the engine and the tubs ran back about 20 feet. Deceased was fatally injured by coal thrown from the tubs when they were derailed by the drag. Inspection and inquiry made.
138	19th September, 9 P. M.	Newton Chikiti mine, Parada P. O., Central Provinces	Newton Chikiti Collieries, Ltd.	Sambati Tolin, (U), 25, Coal-carrier.	Coal	Whilst a coal carrier was loading a tub on a tramline dipping at 1 in 10 another tub which was standing at a distance of 15 feet gravitated towards her. She was struck and fatally injured by the moving tub. Inspection and inquiry made.
139	1st October, 9 30 A. M.	Dura-Golai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ltd.	Mathura Kurmi, (m.), 40, Trolleyman.	Coal	Whilst a train of four empty tubs was being hauled out of a siding by a pony, the last tub of the train became derailed. A trolleyman who had been helping to couple the tubs was crushed between the derailed tub and a loaded tub which was standing on an adjacent line. He was fatally injured. Inspection and inquiry made.
140	2nd October, 2-15 P. M.	Dalia mine, P. O., Jharkhand P. O., Central Provinces	Amakramat Coal fields, Ltd.	Jirawna Kola-m, (f), 21, Coal carrier.	Coal	Whilst a train of six empty tubs was being lowered down a haulage incline the haulage rope broke and the tubs ran wild. A coal carrier who was walking up the incline was struck by one of the tubs and fatally injured. Deceased should not have been walking on the haulage incline, but should have used the travelling road provided. Inspection and inquiry made.
141	9th October, 8 P. M.	West Jambhad mine, Cherra P. O., Bengal.	West Jambhad Colli- eries, Ltd.	Babu Harsi, (m.), 37, Trolleyman.	Coal	A trolleyman was run over and fatally injured by a loaded tub which was gravitating along a shaft level having a slight gradient in favour of the load. From the position in which he was found he appears to have been sleeping or lying on the track. Inspection and inquiry made.

An empty tub was being pushed along a shaft level, 9 feet wide, and, to allow it to pass, a sardar slipped on to the loaded tub track. He was crushed between a stationary tub and another tub which was slowly gravitating along the road.

Pacomenus supervised, and he died eight days afterwards. If between the tracks there had been sufficient space for a man to pass the accident would have been avoided.

Inspection and inquiry made.

While attempting to replace a moving lanigaro in a which had slipped off a pulley a trimmer sustained slight cuts on the fingers. He refused proper medical attention and tetanus supervening died ten days later. Inspection and inquiry made.

Three miners were pushing an empty tub up a gradient of 1 in 20 when the tub jumped into some stationary tubs which were held in position by coal slack thrown on the rails. Two of the stationary tubs and the tub which the miners had been pushing got out of control and ran down the slope. One of three miners who were pushing another tub was struck and fatally injured.

Had the proper sprags provided been used to secure the stationary tubs the accident would not have occurred.

Inspection and inquiry made.

An engineman was found lying dead under the inging rope pulley of an engine lanigaro engine. It was presumed that he had been examining this part of the engine when his hand was caught by the rope and his body was dragged under the pulley. Inspection and inquiry made.

While holding the stay prop of a chain coal-cutting mac'ine deceased fell upon the job and sustained serious injuries to which he succumbed four hours later. Inspection and inquiry made.

Unnoticed by the machine crew a coal-carrier, for some reason unknown, entered a gallery where a coal-cutter was at work. She fell on the moving chain and was fatally injured. Inspection and inquiry made.

While a miner was making a drainage sump in an excavation, 6 feet deep and 4 feet wide, formed by the extraction of a tin loda two miners who were working 6 feet away from him caused a mass of ground weighing about 3 cwt to fall from the side. Hearing the ground falling he became afraid and jumping forward he slipped and fell striking his head on the point of the pick which he was using. He was killed instantly. Inspection and inquiry made.

122	14th December, 8-15 P M	Girimint mine, Charanpur P. O., Bengal.	Kalidas Bhattacharyya, (m), 26, Orissan.	Coal
123	14th December 3-30 P M	Deoli mine, Dishargarh P. O. Bihar and Orissa.	Bilas Bauri, (m), 30, Trimmer.	Coal
124	21st December, 5 P M	Ningah mine, Kalupahar P. O. Bengal.	Nunoo Meah, (m), 22, Loader.	Coal

UNDERGROUND MACHINERY—(3 deaths)

125	1st June, 9-15 A M	Ballarner mine, Ballarner P. O., Central Provinces.	Sir A. C. Daga & Tonia Gaur, (m), 23, Engineman.	Coal
126	27th July, 5 P M	Bhatilo mine, Molunda P. O., Bihar and Orissa.	Kalu Meah, (m), 23, Machineman.	Coal
127	21st August, 12 Mid night	Parolia mine, Dishargarh P. O., Bihar and Orissa.	Sakti Koran, (U), 45, Coal-carrier.	Coal

SUNDRIES UNDERGROUND—(13 deaths)

128	14th January, 10 A M	Foh Chang mine, Fahaw P. O., Jiarua.	Bharata Bahak, (m), 25, Miner.	Tin
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APPENDIX II—contd.

Fatal Accidents during the year 1929—contd.

Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks
166 25th January, 3-4 M.	Haukthao mine, Namin P. O., Burma.	Burma Corporation Ltd.	Li Kwe Su, (m), 16, Quartermaster	Limestone	Two quarrymen were standing on a bench, 4 feet wide and 19 feet above the floor of a quarry, barring a mass of limestone off the face. The mass gave way unexpectedly and, overbalancing, they fell down the face and were severely injured. One of them died five days later. Inspection and inquiry made.
170 4th February, 10 P. M.	Pawdin mine, Namin P. O., Burma.	Burma Corporation, Ltd.	Koila Chand, (m), 27, Miner.	Silver-lead-zinc.	Whilst a miner was leaving his stone and entering a ladderway he fell out. In attempting to climb up the ladderway in darkness to a level 40 feet above he fell from a ladder to a platform 15 feet below, and sustained injuries from which he died twenty-six hours later. Inspection and inquiry made.
171 25th February, 3 P. M.	Nangun the Khaw mine, Namin P. O., Burma.	Burma Corporation, Ltd.	Chi Pa, Yong, (m), 22, Labourer	Iron ore	Whilst a labourer was carrying iron ore to a screen up an inclined ramp 18 feet long and 7 feet high one of the posts supporting the ramp broke. He jumped to the ground from a height of 3 feet, but was caught and severely injured by the falling ramp. A month later he died. Inspection and inquiry made.
173 24th March, 7-30 A. M.	Burace mine, Jengfers P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Proahadi, Barhai, (m), 20; Golap Barhai, (m), 30; Barhan Barhai, (m), 40; Timberman.	Coal	In a depillaring section of a seam 28 feet thick, which had been isolated by stoppings in some of which there were "passage holes", an area of roof, measuring 250 feet x 150 feet, collapsed. Some two and a half hours before the collapse all workers had been withdrawn but some of them were in the vicinity of one of the "passage holes" and in the direct line of the air-blast produced. Of these two were killed on the spot, and a third sustained injuries to which he succumbed two days later. Four other persons sustained serious injuries. Had they remained behind the stoppings and out of the direct line of the air-blast the accident would have been avoided. Inspection and inquiry made.

11	4th May, 12 noon	Tya mine, Pya, P. O., Harna.	Ironham, Contractor.	Mg. Phio Yin, (m), 40, Quarryman	Stems	Whist a quarryman was using a steel bar to remove stone from the face of a stone quarry he fell from a height of 30 feet to the floor of the quarry. He sustained injuries from which he died three and a half hours later. He was not secured to the safety rope which was provided. Inspection and inquiry made.
174	14th May, 5 P M	South Balliari mine Kasuda P. O., Bihar and Orissa	East Indian Coal Co., Ltd	Tobal Kahar, (m), 35, Coal-cutter,	Coal	Whist trying to avoid an empty tub that was being trammed, a miner fell into a drain adjoining the tram line and sustained serious injuries. His contracted pneumonia and died three weeks later. Inspection and inquiry made.
175	15th May, 10:50 A M	Lodna mine Jhama P. O. Bihar and Orissa	Lodna Colliery Co (1520), Ltd.	Meghan Mahato, (m), 46, Proprietary Master	Coal	Deceased was assisting to set a prop near the edge of a coal when a small piece of stone rolled down from the coal and cut his leg. He died of tetanus two days later. Inspection and inquiry made.
176	27th May 9:30 A M	Gua mine Gua P. O., Bihar and Orissa	Indian Iron and Steel Co., Ltd	Nela Bhaspuri, (m), 24, Miner.	Iron ore	A miner at work on the upper edge of quarry over balanced and rolled down a slope of 40 degrees for a distance of 15 feet. In falling he struck his head against a boulder and sustained fatal injuries. Inspection and inquiry made.
177	17th July 11 A M	Gua mine, Gua P. O. Bihar and Orissa	Indian Iron & Steel Co., Ltd	Mukta Kati, (f), 18, Lod	Iron Ore	Whist deceased was at work at the foot of a slope in a quarry, a large boulder rolled down from an excavation some 50 feet above. She was struck by the boulder and sustained injuries which caused death twenty one days later. Inspection and inquiry made.
178	27th July 1 A M	Hararee mine Jasjora P. O., Bihar and Orissa	East Indian Coal Co. Ltd	Dasha Doodahin (f), 56, Coal-carrier.	Coal	In the process of setting a prop 25 feet in length the prop struck another prop and knocked it out. The falling prop struck deceased and fatally injured her. Inspection and inquiry made.
179	29th August 4:30 P M	Sersampur mine Girdih P. O. Bihar and Orissa	East Indian Rail- way	Gendia Turan, (f), 22, Coal-carrier	Coal	Whist deceased was working in a gallery 18 feet high a prop, set as a support for the roof, fell and struck her. She was fatally injured. Inspection and inquiry made.
180	4th November 11 A M.	Manjira Gurocote mine Jasjora P. O., Bihar and Orissa.	Sone Valley Port- land Cement Co., Ltd	Jayaram Raywar, (m), 41, Miner.	Limestone	Whist deceased was hauling down loose stone from the edge of a bench in a quarry his bar slipped and he fell a distance of 30 feet sustaining a fracture of the skull to which he succumbed within an hour. Inspection and inquiry made.
181	1st December, 6:30 A M.	Ywanlian Sae (m) mine, Ywanlian P. O., Harna.	Ibrahim Contractor	Bhumu Ouryia, (m), 26, Miner	Stone	Whist levering loose rock from the face of a quarry de- ceased overbalanced and fell to the bottom of the quarry—a distance of 30 feet. He received injuries from which he died six hours later. Inspection and inquiry made.

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Date and hour of accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks.
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ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—*contd.*

153	25th September, 4.30 A.M.	Hopani and Kongru mines, Khasia P. O., Assam.	Narita Coal Co., Ltd.	Arsad Ali, (m), 39, <i>Tramway.</i>	Coal	A trammer was riding on the buffer of a loaded tub which was travelling on a surface tram line dipping at 1 in 12. While crossing a bridge over a small stream the tub became derailed and he was thrown off. He fell to the bed of the stream 25—feet below—and was killed instantly. Inspection and inquiry made.
156	17th October, 5 P.M.	Chickla mine, Tumkur District, P. O., Central Provinces.	Central Provinces Mangane Ore Co., Ltd.	Malloy, (m), 35, <i>Miner.</i>	Manganese Ore.	A woman was engaged in stacking ore near a surface tram line. As she was walking on the line a tub struck her, inflicting injuries which subsequently proved fatal. It appears that the woman was deaf and thus failed to avail herself of the warning given. Inspection and inquiry made.
157	19th October, 9 P.M.	Pokaro mine, Bokaro P. O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways	Topi Kurma, (f), 18, <i>Labourer.</i>	Coal	A train of empty tubs gravitating on a surface tram line struck a woman who was crossing the tram line. She sustained injuries which proved fatal. Inspection and inquiry made.
158	25th October, 1 P.M.	Basudra mine, Ghatala P. O., Bihar and Orissa.	East India Mangane Co., Ltd.	Tepo Sonthal, (m), 25, <i>Stone cutting soldier.</i>	Manganese.	Seven persons were illegally riding on a trolley down a steep haulage incline when the trolley got out of control and collided with an empty truck. Deceased was fatally injured and two of the others were slightly injured. Inspection and inquiry made.

IV ELECTRICITY—(2 deaths).

159	21st September, about 7-20 A.M.	Kandwalah mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Khoiruddin, (m), 49, <i>Labourer.</i>	Coal	Deceased climbed up a post carrying line conductors at 2,200 volts a.c. and was electrocuted. Inspection and inquiry made.
160	16th November, between 8 and 9 P.M.	Kharil mine, Kulpahar P. O., Bengal.	Kharil Coal Co., Ltd.	Moti Bhauri, (m), 52, <i>Coal-puller.</i>	Coal	An extensive fall of roof damaged a rubber insulated cable carrying current at 250 volts d.c., and caused an earthwire to come in contact with the live core. The wire broke and a miner, who was passing nearby, became entangled in it and was electrocuted. Inspection and inquiry made.

201	14th February. 2.20 P M	Heine Basin mine, Kanlack P O., Burma	Northern Tin Dredging Cor- poration Ltd.	Tavoy (m), 30. Stoker on producer gas plant	Tin Ore	During the trials of a new dredge one of the cylinders of a 4-cylinder 400 H P gas engine was misfiring and some of the unburnt gas escaped through a leaky expansion joint in the exhaust pipe into a compartment in the postoon. Two men who were close to a manhole in the deck were severely burned when the accumulation of unburnt gas in the compartment was ignited by a back-fire in the exhaust pipe. One of them died a few hours afterwards. Inspection and inquiry made.
202	11th April 10.40 A M	Kandirel mine, Kandirel P. O., Bombay.	Magesath & Sons	Tippanna (f), 20. Labourer.	Marrom	A woman carrying a loaded basket stumbled, and the contents of the basket falling on her killed her. Inspection and inquiry made.
203	12th June 6.30 P M	Gua mine, Gua P. O., Bihar and Orissa.	Indian Iron & Steel Co. Ltd.	Mongal Kol. (m), 25. Labourer.	Iron Ore	Deceased went up a ropeway trestle to raise a jammed pulley. The crowbar which he was using was struck by a loaded carrier, and this caused the supporting beam to break. He was thrown to the ground, 28 feet below, and killed instantly. Inspection and inquiry made.
204	11th July. 8 A M.	Thankpan mine, Rajauli P. O., Bihar and Orissa.	Ganpat Ror Koder- mah.	Barna Ghatwarin. (f), 12.	Mica	Whilst collecting mica from a waste dump on the hill side deceased was buried and killed by a fall of debris. Inspection and inquiry made.
205	11th July. 0 P M	Parbha mine Dibhargah P. O. Bihar and Orissa	Parbha Coal Co. Ltd.	Soni Mejhuan. (f), 16. Wagon loader.	Coal	Whilst a wagon loader was getting down from a wharf 4 feet high on to a railway siding, she slipped and her head struck the buffer of a stationary wagon. She was severely injured and died ten minutes later. Inspection and inquiry made.
206	27th July 12 A M	Tanpula mine Tavoy P O., Burma.	Consolidated Mines of Burma Ltd.	Mang Po Swee. (m), 45. Labourer	Tin and wolfram	Deceased was struck and killed by a tree which he had felled. Inspection and inquiry made.
207	8th August, 3 P M.	Tanpula mine, Tavoy P. O., Burma.	Consolidated Mines of Burma Ltd.	Lee Yin, (m), 24. Labourer.	Do	After a log had been sawn into two pieces one of the pieces rolled down into an open excavation and struck two miners, one of whom died four days later. Inspection and inquiry made.
208	11th September 1st, 3 P M.	Jamala mine, Jaigara P. O., Bihar and Orissa.	Tata Iron and Steel Co., Ltd.	Sander Nohjan. (f), 15 Labourer.	Coal	Deceased was carrying a bag filled with earth on her head when she slipped and fell backwards. She sustained injuries to which she succumbed on the following day. Inspection and inquiry made.
209	24th September 1st, 12.30 P M	Heine Basin mine, Kanlack P O., Burma.	Northern Tavoy Tin Dredging Ltd.	Gyoba Ali, (m), 22. Jag Greaser.	Tin.	Whilst greasing the rollers on the bucket ladder of a dredge deceased overbalanced and fell on to the deck below, breaking his leg. He refused proper medical treatment and, gangrene setting in, died thirteen days later. Inspection and inquiry made.

APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Sl. No.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
MISCELLANEOUS ON SURFACE—(12 deaths)—<i>contd.</i>						
210	26th October, 11-50 A. M.	Bhutgoria mine, Bhagra P. O., Bihar and Orissa.	Albhh Coal Co., Ltd.	Keriah Singh, (m), 35, Labourer.	Coal.	Deceased was engaged in the work of dismantling a steel header, when he overbalanced and fell to the ground 40 feet below. He was struck by a girder which fell at the same time, and sustained injuries which later proved fatal. Inspection and inquiry made.
211	4th December, 3 P. M.	Oua mine, Gua P. O., Bihar and Orissa.	Indian Iron and Steel Co., Ltd.	Jhamloo Meah, (m), 20, Labourer.	Iron Ore.	With the object of removing a pulley-block, deceased climbed to the top of a derrick pole from which one of the four guy ropes had been removed. The pole overbalanced and he fell with it to the ground, 25 feet below. He sustained a fracture of the skull and died three hours later. Inspection and inquiry made.
212	12th December, 4-30 P. M.	Bagdighat mine, Jharra P. O., Bihar and Orissa.	Vallens Ltd.	Badi Baud, (m), 25, Labourer.	Coal.	Whilst engaged in dismantling a building a labourer brought about the collapse of a wall. He sustained spinal injuries which caused death soon after. Inspection and inquiry made.

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APPENDIX II—*contd.*Fatal Accidents during the year 1929—*contd.*

Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Reason for exclusion	Cause of accident and remarks.
15 3th July, 12 noon.	Terris (Square ■ b) mine, Kodarma P. O., Bihar and Orissa	Chota Nagpur Mica Syndicate	Karim Meah, (m), 39.	Mica	Not employed	Whilst sheltering from a rain storm in an abandoned quarry, 10' x 10' x 10', deceased was struck and fatally injured by stones which fell from the edge of the excavation. Inspection and inquiry made
16 14th July, 7-10 A.M.	Shwe Te Chang mine, Pabaw P.O., Burma.	Leslie R. Beale	Hooashin, (m), 18, Labourer.	Tin	An accident under the Indian Explosives Act.	Although explosives were not used at the mine at which the deceased was employed he had obtained from an unknown source some dynamite and detonators and was drying them over a fire in a dwelling house. An explosion occurred and he was fatally injured. It was presumed that he had intended to use the explosives for catching fish. Inspection and inquiry made
17 26th July, 11 A.M.	Topyoi mines, Topoi P. O., Bengal	Bhaura Coal Co., Ltd.	Sita Badi, (m), 30, Chapsrassie	Coal	Not a mining accident	Whilst bathing in a surface tank deceased, who was unable to swim, got into difficulties and was drowned. Inspection and inquiry made
18 26th July, 9 A.M.	Jorramper mine, Jharia P. O., Bihar and Orissa	Jorramper Coal Co.	Eltowari Bhuira, (m), 7.	Coal	Not employed.	Deceased released the catch on the door of a stationary railway wagon. The door fell and killed him instantly. Inspection and inquiry made
19 27th July, 1-30 P.M.	Tikuri mine, Katni Cement Factory P.O., Central Province.	Katni Cement and Industrial Co., Ltd.	Daulatia Teli, (m), 16.	Limestone.	Not employed.	A labourer, who had not been employed for several days on account of illness, passed through the fence at the top of a quarry 125 feet deep to watch others working. He fell over the edge and was killed. Inspection and inquiry made.
20 29th July, 12-30 P.M.	Khas Jharla mine, Jharia P. O., Bihar and Orissa.	Khas Ramji	Motia Turi, (m), 6.	Coal	Not employed.	Deceased was found drowned in a boiler feed tank, containing 7 feet of water. Inspection and inquiry made.

FIGURES NOT INCLUDED IN THE STATISTICS—(39 deaths)—*contd.*

21	12th Septem- ber, about 1-30 P M	Paideyanathpur mine, Pandiavaram P O, Bengal	Samba Collieries, Ld.	Kamini Meibhan, (f), 4; Purcoo Manjhi, (m), 10	Coal	Not a mining acci- dent	The deceased were found drowned in a reservoir 16'x12' and 7' deep, the sides of which were built up 2 to 2½ feet above ground level. Inspection and inquiry made.
22	24th Oct., 1907	Tura mine, Jharra P O, Bihar and Orissa	Amarsing Gowamal Mangy Gowamal	Name unknown, (m), 30 to 40	Coal	Not em- ployed.	Deceased was found drowned in an old water-logged quarry. Inspection and inquiry made.
23	7th Novem- ber, 11 A M	Dongri-Buzurg mine, Tumkur-Dongri P O, Central Provin- ces	Central Provinces Manganese Ore Co., Ltd.	Sakrabu, (m), 12	Manga- nese Ore	Not em- ployed	A boy who was bringing food to his father approached unobserved a place in a quarry where rock was being barred down from an upper level. A piece of rock struck him on the ankle, inflicting an injury which caused death on the day following. Inspection and inquiry made.
24	20th Novem- ber, 1 P M	Bagallgi mine, Jharra P O, Bihar and Orissa	Villiers, Ltd	Kashi Khar, (m), 55, Bijaynagar affluent.	Coal	Not a mining acci- dent	Deceased took a burning bracer into his quarters and, hav- ing closed the window and door, lay down to sleep. He was found suffocated the following morning. Inspection and inquiry made.
25	19th Decem- ber.	Horan and Kongon uling, Kongnyo P O, Aboam	Nazra Coal Co., Ltd	Banbur Kami, (m), 35, Timber- cutter	Coal	Not a mining acci- dent	While at work in a forest a timber-cutter slipped and fell down a timber slide. He was fatally injured. Inspection and inquiry made.
26	22nd Decem- ber 9 P M	Jambal mine, Chora P O, Bengal	North Adhai Coal Co., Ltd	Dabhal Dauru, (m), 28, Trolleyman	Coal	Not a mining acci- dent.	Whilst seated near a fire in his dwelling his clothing caught fire and he was fatally burned.
27	24th Decem- ber 3-15 P M.	Dongri-Buzurg mine, Tumkur-Dongri P O, Central Provin- ces.	Central Provinces Manganese Ore Co., Ltd	Sakrabu, (f), 14.	Manga- nese Ore	Not em- ployed	A baby who had been taken by its mother on to the work- ings of the quarry strayed on to a tram line and not being noticed was run over and killed by a tub which was being pushed by hand. Inspection and inquiry made.

Table

Statement of fatal and serious accidents in and about Mines

Province	Mineral field or District.	Number of separate fatal accidents.	FATAL							
			Number of deaths.						Total.	
			Under-ground		Open workings.		Surface.			
			Males	Females.	Males.	Females.	Males.	Females.		
Assam	{ Makum Coalfield Nazira ..	7 19	8 1	... ...	... ...	... ...	1 1	... ..	CO 2
Baluchistan .	Baluchistan Coalfield .	..	..	..	..	..	... *	...	...
Bengal (and part of Bihar and Orissen).	Raniganj Coalfield .	53	45	11	1		4	1	62	
Bihar and Orissa	{ Jharia Coalfield . Bokaro .. Karanpura .. Gumdh .. Hingur Rampur Coal-field.	67 1 2 7 1	37 6 ... 7 2	18 6 ..	... .. 2	1	5	1 1 ...	82 6 2 14 2
	{ Pench Valley Coalfield Chanda ..	8 2	6 12	3 ...	... ...	... ...	... ...	... ..	11 2
	Punjab	Salt Range Coalfield .	2	2	2
	Total (Coal)		152	136	49	3	1	11	3	194

DIX II.

No. 2.

regulated by the Indian Mines Act, 1929.

ACCIDENTS.					SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.					Number of separate serious accidents.	Number of persons seriously injured							Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.	Underground.		Open workings		Surface.		Total.	Underground	Open workings.	Surface.	Underground, Open workings and Surface.		
				Males		Females.	Males	Females.	Males.						Females	
AL																
4 66	..	1 21	2 61	44	27	.	4	1	11	1	44	15 74	5 50	14 48	12 74	
2 25	.	4 83	2 98	4	8	.	...	.	1		4	6 76			4 33	5 93
...	..		...	1	1	.	..	...	.		1	6 23			...	4 72
1 61	0 67	0 32	1 19	74	52	7			18	.	77	1 69	..	1 14	1 48	
1 69	0 53	0 25	1 16	155	129	16	2		45	6	191	3 07	1 07	2 17	2 71	
4 91			0 57	36	4	2	12	6	9	1	36	4 94	1 61	3 60	2 20	
	1 19		0 56	5	2			1	2		5	2 16	0 60	2 31	1 44	
1 83		0 40	1 46	32	26	7				1		34	4 64		0 16	3 33
12 42			0 13													
2 91			1 27	46	31	6				9	2	47	9 79		6 27	6 02
1 23			0 25	1	1							1	0 61			0 47
5 14			2 70	4	3					1		4	7 71		3 02	3 35
1 82	0 21	0 12	1 17	42	20	38	15	10	97	12	445	31 10	1 69	2 12	2 70	

Table

Statement of fatal and serious accidents in and about Mines

Statement of fatal and serious

FATAL

Provinces.	Mineral field or District.	Number of separate fatal accidents	Number of deaths.						Total.
			Under-ground		Open workings		Surface		
			Males.	Females.	Males.	Females.	Males.	Females.	
IRON									
Bihar and Orissa . . .	Singbhum District . . .	7	.	...	2	1	4	...	7
Burma	Shan States	1	...	...	1	...	.	...	1
	Total (Iron Ore) . . .	8		...	3	1	4	..	9
MANGA									
Bihar and Orissa . . .	Singbhum District . . .	1	...	...	...	...	1	...	1
Bomlay . . . . .	.....	...	...	...	...	...	...	.	...
Central Provinces . . .	.. ...	4	1	...	...	1	...	2	4
Madras	Visagapatam District . . .	1	...	...	1	...	...	...	1
	Total (Manganese Ore) . . .	6	1	...	1	1	1	2	6
LEAD									
Burma	Shan States	10	20	...	...	...	...	..	20
TIN AND									
Burma	Tavoy and Mergul Districts.	5	...	...	4	...	4	..	5

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, 1929—contd.

ACCIDENTS.					SERIOUS ACCIDENTS.										
Death rate per 1,000 persons employed.				Number of separate serious accidents	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed			
Underground.	Open workings	Surface.	Underground, open workings and Surface		Underground.		Open workings		Surface		Total.	Underground	Open workings	Surface	Underground, Open workings and Surface
					Males.	Females	Males.	Females	Males.	Females					
ORE															
..	0.32	1.72	0.86	11	..	..	5	..	9	..	11	..	0.60	3.87	1.73
.	4.35	..	1.52	2	..	..	..	..	2	..	2	..	..	4.00	3.03
...	0.66	1.45	0.91	16	..	..	5	..	11	..	16	..	0.83	3.40	1.82
NESE ORE															
.	1.35	0.60	..	2	...	..	...	...	2	...	2	..	..	2.75	1.20
..	..	..	..	22	..	..	7	4	9	12	23	..	3.60	17.16	5.98
1.00	0.06	0.58	0.20	26	..	...	9	9	..	12	25	..	1.13	2.80	1.37
...	0.81	..	0.66	2	..	..	3	..	1	...	4	..	2.42	3.60	2.64
0.83	0.10	0.30	0.22	51	..	..	19	13	20	4	56	..	1.53	4.70	2.00
ORE															
3.28	...	..	3.20	91	61	..	..	..	10	..	91	15.73	..	11.70	13.02
WOLFRAM ORE															
...	0.63	5.19	0.93	11	..	..	2	..	7	..	11	1.15	0.33	9.10	1.31

Table

Statement of fatal and serious accidents in and about Mines

FATAL

Province.	Mineral field or District.	Number of separate fatal accidents.	FATAL							
			Number of deaths							
			Under-ground.		Open workings.		Surface.		Total.	
			Males.	Females.	Males.	Females.	Males.	Females.		
COPPER										
Bihar & Orissa	Singbhum District	1	2	...	..	...	...	..	2
	Total (Copper Ore)	1	2	...	..	..	..	..	2
GE										
Burma	Katha District	3	...	..	..	..	1	..	3
CHROMITE										
Daluchistan	Ziboh District	..	..	...	..	..	...	...	..
Bihar and Orissa	Singbhum District	...	..	...	...	..	..	...	..
	Total (Chromite Ore)	...	..	...	...	..	...	...	..
MI										
Bihar & Orissa	...	6	3	...	...	...	...	1	6
Madras	...	2	1	..	1	..	...	..	2
	Total (Mica)	8	6	..	1	...	...	1	8
SA										
Punjab	Salt Range	1	1	...	...	...	..	..	1

11—contd.

2—contd.

ulated by the Indian Mines Act, 1929—contd.

IDENTS				SERIOUS ACCIDENTS.												
Death rate per 100 persons employed				Number of separate serious accidents.	Number of persons seriously injured.								Serious injury rate per 1,000 persons employed.			
Open workings	Surface	Underground, Open workings and Surface.	Underground.		Open workings		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.			
			Males		Females	Males.	Females.	Males.						Females.		
E																
66			4 54	6	3	..	...	..	12	1	6	18 99	..	10 60	13 61
66			4 46	8	3				12	1	6	18 99	..	10 60	13 39	
IS	10 30	4 95	7 61													
RE				3	1	..	12	..	..	..	3	9 01	27 78	...	12 35
				1	..		..	..	1	...	1	..	..	18 18	1 47
				4	1	..	2	...	1	..	4	9 01	2 67	8 69	4 34	
CA																
0 62		0 55	0 50	5	5	..	..	..	..	...	5	0 62	..	...	0 42
0 54	0 83	...	0 49		..	..	...	...	..	...	..	..	...	..	...
0 60	0 28	0 34	0 49	5	5	..	..	..	..	..	5	0 50	...	..	0 30
LT																
0 83			0 61	3	3	...	...	..	..	...	3	2 79	...	...	1 87

Table

Statement of fatal and serious accidents in and about Mines

Province.	Mineral field or District.	FATAL								
		Number of separate fatal accidents.	Number of deaths							
			Under- ground.		Open workings.		Surface.		Total.	
			Males.	Females.	Males.	Females.	Males.	Females.		
Bihar & Orissa	Singbhum District . .	1	2	..	..	..	..	..	..	COPPER
	Total (Copper Ore).	1	2	..	..	..	..	..	..	2
Burma	Katha District	3	..	..	..	..	..	1	..	GE
										3
Baluchistan	Zhob District . . . .	..	..	..	..	..	..	..	..	CHROMITE
Bihar and Orissa . .	Singbhum District . .	..	..	..	..	..	..	..	..	..
	Total (Chromite Ore)	..	..	..	..	..	..	..	..	..
Bihar & Orissa . . . .	.. . . .	6	2	..	..	..	..	..	1	MI
Madras . . . . .	.. . . .	2	1	..	1	..	..	..	..	2
	Total (Mica)	8	3	..	1	..	..	..	1	8
Punjab	Pot's Range	1	1	..	..	..	..	..	..	SA

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, 1929—contd.

ACCIDENTS				SERIOUS ACCIDENTS												
Death rate per 1,000 persons employed				Number of separate serious accidents	Number of persons seriously injured.								Serious injury rate per 1,000 persons employed.			
Underground.	Open workings	Surface.	Underground, Open workings and Surface.		Underground.		Open workings		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.	
					Males	Females	Males.	Females.	Males.	Females						
ORE																
12 66			4 53	6	2	-	-	-	2	1	3	19 00		10 60	13 61	
12 66			4 46	6	2				2	1	3	18 90		10 60	13 39	
MS	12 36	4 11	7 61									...				
ORE																
..			..	3	1	..	2	...		..	3	9 01	27 78		12 35
.	...	.		1					1		1	...	..	18 18	1 47
.		.		4	1		2	...	1	...	4	9 01	257	8 60	4 31	
CA																
0 62		0 55	0 50	8	5	-	..	...	...	...	5	0 62	..	...	0 42
0 51	0 83	..	0 43		..	...	...	...		...	...	...	...	...	...
0 60	0 25	0 31	0 45	3	3	..	...		..	..	3	0 51	-	...	0 31
LT																
0 93			0 62	3	3	..	-	...	...	...	3	2 79	..	...	1 57

Table
Statement of fatal and serious accidents in and about Mines

		FATAL							
Province.	Mineral field or District	Number of separate fatal accidents.	Number of deaths.						
			Under-ground.		Open workings.		Surface		Total.
			Males.	Females	Males.	Females.	Males.	Females.	
									STO
Bihar and Orissa	Santhal Pargannas	1	...	..	1	..	..	...	1
	Shahabad	2	...	...	1	.	1	...	2
	Total	3	.	...	2	..	1	...	3
Bombay	Bombay Suburban	3	..	...	3	..	.	1	4
	Total	3	..	..	3	..	..	1	4
Burma	Northern Shan States	1		...	1	...	...	...	1
	Thaon	4	..	...	4	...	...	...	4
	Toungoo	1	...	.	1	...	...	...	1
	Total	6	.	..	6	...	...	.	6
Central Provinces	Jubbulpore . . . . .	.	...	...	...	...	...	...	...
	Total . . . . .	...	...	...	...	...	...	...	...
Punjab	Jhelum . . . . .	..	...		...	...	...		...
	Rawalpindi	1	.	...	1	..	.		1
	Total	1	..	...	1	..	...	..	1
United Provinces	Allahabad . . . . .	.	...	...	.	...	...	.	...
	Banla	1	.	..	1	...	...	..	1
	Total	1	...	...	1	.	...	...	1
	Total (S'nes) for 1909	16	...	...	13	...	1	1	13

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, 1929—contd.

ACCIDENTS				SERIOUS ACCIDENTS											
Death rate per 1,000 persons employed				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
Underground	Open workings	Surface	Under ground, Open workings and Surface		Under-ground		Open workings.		Surface.		Total	Underground.	Open workings.	Surface	Underground, Open workings and Surface.
					Males	Females	Males	Females.	Males.	Females					
NE															
"	0.70	...	0.48						...		..	...	..	...
"	0.70	2.00	1.20					...	...	...	..	...	...	...
"	0.48	0.84	0.56					...		...	..	..	...	...
"	1.97	5.21	2.33	4		...	..	1	3	..	4		0.66	15.62	2.33
"	0.70	1.70	0.82	4	..	...		1	3	...	4	..	0.23	5.27	0.82
"	4.95		4.95	1	..		1		...	...	1	...	4.95	...	4.95
"	2.01		1.84	7	..		11		..	..	11	..	5.60	..	8.07
"	1.71		1.68	...	...		...		...	...	...	...	...	..	...
"	1.76	..	1.63	8		...	12		...	...	12	..	8.51	...	3.27
"	...			3	..	...	1	1		1	3	...	0.58	1.55	0.74
"			..	3	...		1	1	..	1	3	...	0.49	1.17	0.61
"	...		...	2	...	..	..	...	3	..	3	..	...	12.29	4.02
"	5.29		1.88	...	...		...	...	...	...	...	...	...	...	...
"	0.53	...	0.34	2	..	..	..	...	3	...	3	...	...	2.74	1.01
"	..		..	12	...	..	1	...	1	...	2	...	0.42	9.50	0.91
"	1.24		1.32	3		...	2	..	1	..	3	..	3.78	15.15	3.65
"	0.23		0.21	5	...	..	3	..	2	...	5	..	0.71	5.25	1.64
"	0.15	0.41	0.35	12	..	..	16	2	6	1	27	..	0.59	1.50	0

Table

Statement of fatal and serious accidents in and about Mines

Province	Mineral field or District	FATAL							
		Number of separate fatal accidents.	Number of deaths						
			Under- ground.		Open workings.		Surface.		Total.
			Males.	Females	Males.	Females.	Males.	Females	
MAGNE									
Madras	Salem District .	..	..		..	1	..	1	11
BAU									
Bombay	Kaira District .	...		..	...		1	...	
STEA									
United Provinces	Hamirpur District .		...	1	...	...	..	...	..
	Total (Stratite) . .	...	..	...	...	...	1	...	...
FIRE									
Bihar and Orissa .	Palaman District .	1	...	...	..	1	...		1
Central Provinces .	Jubbulpore District .	...	1	...	1	...	1	...	...
	Total (Fire Clay) . .	1	...	...	...	1	1	1	1
CHINA									
Bihar and Orissa . .	Singbhum District .	..	1	...	..	1	...	...	..
	Total (China Clay) .	..	...	1	...	...	...	...	...
CL									
Bergal	Dardwan District		...	...	...	...	1	1	...
	Total (Clay)	1	...	...	...	...	...	...	...
	Grand Total (All mine- rals).	212	168	40	27	4	22	7	254

DIXII—*contd.*No. 2—*concl.*regulated by the Indian Mines Act, 1929—*concl.*

ACCIDENTS					SERIOUS ACCIDENTS.												
Death rate per 1,000 persons employed.					Number of separate serious accidents.	Number of persons seriously injured.								Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.	Underground.		Open workings.		Surface.		Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.			
				Males.		Females.	Males.	Females.	Males.						Females.		
SITE					2					1	1	2	...			12.74	1.39
SITE					1					1	...	1	...	...		71.43	3.13
TITE					1	1				...	...	2	3.32	...	...	...	1.99
					1	1						1	2.51	...	...	...	1.01
CLAY																	
" 4.23					2.52	...				...		...	...				...
					1			1				1	...	2.59	...	2.13	
" 1.20					0.96	1		1			...	1	...	1.29	...	0.93	
CLAY																	
					1					...	2	2	...	...	...	7.75	3.71
					1					...	2	2	...	...	...	7.52	3.65
AY																	
					1			1	...		...	1	...	14.08		12.06	
"					1	...	...	1	...		...	1	...	7.57		7.50	
1.76	0.37	0.42	0.49	651	308	38	64	25	153	51	672	3.45	1.07	5.56			

APPENDIX II—*concl'd.*

Table No. 3.

Statement of fatal accident in Mines regulated by the Indian Mines Act, during the year 1929, classified according to cause of accident.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed											Death rate per 1,000 persons employed.				
		Explosions and ignitions of fire-damp	Falls of roof	Falls of side	In shafts.	Suffocation by gases.	By explosives	Eruptions of water	Haulage.	Miscellaneous underground.	Surface.	By electricity.	Total deaths.	Underground.	Open workings.	On surface.	Underground, Open workings and surface.
Coal	152	8	81	31	11	12	6	..	32	10	12	28	194	182	0.21	0.28	1.17
Iron Ore	8	..	..	..	..	..	..	..	1	3	4	..	8	..	0.00	1.45	0.01
Manganese Ore	0	..	..	12	..	..	..	..	2	..	3	..	6	0.83	0.10	0.59	0.22
Lead Ore	10	..	15	22	2	..	..	..	1	1	..	..	20	3.68	..	..	3.30
Tin and Wolfram Ore.	8	..	..	2	..	..	1	..	..	1	4	..	8	..	0.65	5.19	0.80
Copper Ore	1	..	2	..	..	..	..	..	..	..	..	..	2	12.00	..	..	4.81
Mica	8	..	1	3	1	..	..	..	..	..	1	..	8	0.60	0.23	0.31	0.43
Gems	3	..	..	20	..	..	..	..	..	..	1	..	3	..	10.28	4.19	7.61
Salt	1	..	..	1	..	..	..	..	..	..	..	..	1	0.40	..	..	0.61
Limestone	4	..	..	..	..	..	1	..	..	2	1	..	4	..	0.40	0.50	0.47
Igneous Rock	6	..	..	3	..	..	1	..	..	..	..	..	6	..	0.70	..	0.69
Stone	1	..	..	..	..	..	..	..	..	1	..	..	1	..	0.24	..	0.24
Muscovite	3	..	..	12	..	..	..	..	..	1	1	..	4	..	2.07	15.63	2.65
Fire clay	1	..	..	1	..	..	..	..	..	..	..	..	1	..	1.20	..	0.26
Total 1929	212	9	89	54	13	2	9	..	31	21	27	2	224	176	0.27	0.42	0.99
Total of preceding year	221	3	81	53	16	1	17	7	29	14	21	2	259	1.61	0.41	0.41	0.97
Difference	-9	+5	+15	-4	-3	+1	-8	-7	+2	+7	-1	-	-35	+0.15	-0.07	-0.03	+0.02

APPENDIX III.

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929.

Province.	District	Number of prosecutions	Number of persons prosecuted	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Assam	Lakhimpur	1	1	1	Regulation 130 of the Indian Coal Mines Regulations, 1926.	
	Bankura	1	3	..	Regulation 15(2), (3) and (4).	All the accused were acquitted
	Burdwan	2	3	2	Regulation 3(2) and (3) of the Indian Coal Mines Regulations, 1926	One of the accused was acquitted
	Do	1	2	2	Regulations 82, 84, 146 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do	1	1	1	Regulation 127(a) of the Indian Coal Mines Regulations, 1926.	
	Do	1	4	2	Regulation 15(3), 53(2) and 76(2)	Case against two of the accused was dropped.
Bengal	Do	1	1	1	Regulations 103, 101, 104 and 149 of the Indian Coal Mines Regulations, 1926, and Section 28 of the Indian Mines Act 1923	
	Do.	1	6	2	Regulations 72, 121, and 146 of the Indian Coal Mines Regulations, 1926.	One of the accused died and three were acquitted
	Do	1	2	1	Rule 9 of the Bengal Government Rules and Section 23 of the Indian Mines Act, 1923.	One of the accused was acquitted
	Do	1	1	—	Regulation 143 of the Indian Coal Mines Regulations, 1926.	Accused was acquitted
	Do.	1	3	2	Section 23 of the Indian Mines Act, 1923.	
	Do.	1	2	2	Section 19(2) of the Indian Mines Act, 1923 and Regulation 213 of the Indian Coal Mines Regulations 1926	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Bengal— <i>concd.</i>	Burdwan . .	1	1	.	Regulation 144 of the Indian Coal Mines Regulations, 1926	Acquitted.
	Gaya . .	1	2	2	Regulation 34 of the Indian Metalliferous Mines Regulations, 1926.	
	Do. . .	1	1	1	Section 26 of the Indian Mines Act, 1923, and Rule 11 read with Section 28 of the Indian Mines Act, 1923	
	Do. . .	6	6	5	Regulation 3(1) of the Indian Metalliferous Mines Regulations, 1926	One of the accused was acquitted.
	Hazaribagh . .	1	2	2	Regulations 71 and 81 of the Indian Metalliferous Mines Regulations, 1926	
Bihar and Orissa.	Do. . .	1	2	1	Regulations 139 and 140 (1) of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . .	1	1	—	Rule 17, made by the Bihar and Orissa Government under Section 30 of the Indian Mines Act, 1923.	Acquitted.
	Do. . .	5	5	5	Regulation 3 (1) and (2) of the Indian Metalliferous Mines Regulations, 1926.	
	Marbhum . .	1	9	7	Regulation 145 of the Indian Coal Mines Regulations, 1926, and Section 24 of the Indian Mines Act, 1923	One of the accused died and the case against one was dropped.
	Do. . .	1	5	5	Special Rules 3, 5, 7, 15 and 21 and Regulations 142, 144, 147 and 148 of the Indian Coal Mines Regulations, 1926	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province.	District.	Number of prosecutions	Number of persons prosecuted.	Number of persons convicted	Number of Regulations and rules and Sections of the Act contravened.	REMARKS.
Bihar and Orissa— contd.	Munthum .	1	2	1	Regulation 23 of the Indian Coal Mines Regulations, 1926, read with Section 15 (1) and (2) of the Indian Mines Act, 1923	One of the accused was acquitted.
	Do. . .	1	1	1	Regulations 82, 84 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	1	1	Regulations 17 of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	1	.	Regulation 23 of the Indian Coal Mines Regulations, 1926, read with Section 15 of the Indian Mines Act, 1923.	Acquitted.
	Do. . .	1	1	2	Section 23(b) and Rule 9 made under Section 30 of the Indian Mines Act, 1923.	
	Do . .	1	1	1	Regulations 23 and 24 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	2	2	Regulation 69(1) and (2) of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	2	2	Regulation 117 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	1	1	Regulation 5a(n) (IV) of the Indian Coal Mines Regulations, 1926.	
	Do . .	2	3	4	Regulation 76(1) of the Indian Coal Mines Regulations, 1926.	One of the accused let off with a warning.
	Do. . .	1	1	1	Regulations 144 and 146 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	4	4	Regulations, 135(1), 135 and 141 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province	District	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted	Number of Regulations and rules and sections of the Act contravened	REMARKS.
Bihar and Orissa— <i>concd</i>	Manbhum .	1	1	1	Regulations 13 (2) and 76 (1) of the Indian Coal Mines Regulations, 1926.	
	Do .	1	1	1	Regulation 17 of the Indian Coal Mines Regulations, 1926.	
	Do .	1	2	..	Regulations 82 and 81 of the Indian Coal Mines Regulations, 1926.	Case dropped as neither of accused could be traced.
	Do .	3	4	1	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926.	One of the accused died, one could not be traced and the case against one was dropped.
	Palaman .	1	3	3	Section 11 of the Indian Mines Act, 1923.	
	Santal Parganas	2	2	2	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926	
	Do .	1	2	2	Regulation 3 (1) of the Indian Coal Mines Regulations, 1926.	
	Shahabad .	1	1	1	Rules 8 and 9 of the Rules made by the Local Government and Section 13 (2) of the Indian Mines Act, 1923, read with Regulation 21 (1) of the Indian Metalliferous Mines Regulations 1926	
Panna .	Do .	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations 1926.	
	Mergui .	3	3	3	Regulation 3 (1) and (2) of the Indian Metalliferous Mines Regulations 1926	Case against two of the accused was dropped as they could not be traced.

APPENDIX III--*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929--*contd.*

Province.	District	Number of prosecutions	Number of persons prosecuted.	Number of persons convicted	Number of Regulations and rules and Sections of the Act contravened.	REMARKS.
Burma-- <i>contd.</i>	Tavoy . . .	2	2	..	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	Case dropped as accused could not be traced
	Chanda . . .	1	3	3	Regulations 15 (2) and (4), 83 (2) and 137 (2) of the Indian Coal Mines Regulations, 1926.	
	Chhindwara . .	1	1	1	Regulations 143 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do . . .	1	2	2	Regulations, 144, 101 and 108 of the Indian Coal Mines Regulations, 1926	
Central Provinces	Do . . .	1	1	..	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926	Case dropped.
	Do . . .	1	2	2	Regulations 109 and 110 of the Indian Coal Mines Regulations, 1926 read with special Rules 48 and 88.	
	Jubbulpore . .	1	1	1	Regulations 88, 49 and 72 of the Indian Metalliferous Mines Regulations, 1926	
	Do . . .	1	1	1	Section III of the Indian Mines Act, 1923 read with Sections III and 30	
Madras . . .	Nellore . . .	2	2	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	Case against one of the accused was dropped.
	Vizagapatam . .	3	3	3	Regulation 3 (2) of the Indian Metalliferous Mines Regulations, 1926	
Panjab . . .	Jhelum . . .	1	1	..	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926	Case dropped as accused could not be traced
	Gurgaon . . .	1	1	..	Regulation 3 (2) of the Coal Mines Regulations, 1926	acquitted

APPENDIX III—*concl'd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*concl'd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Rajputana	Ajmer-Merwara	1	1	1	Regulation 11 (1) of the Indian Metalliferous Mines Regulations, 1926.	
United Provinces.	Banda	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926	
	Hamirpur	1	1	1	Regulations 38, 46 and 48 of the Indian Metalliferous Mines Regulations, 1926.	
	Do	5	5	4	Regulation 3 (1) and (2) of the Indian Metalliferous Mines Regulations, 1926.	One of the accused died.
TOTAL		82	74	90		

APPENDIX IV.

Miscellaneous.

Statement No. 1.

LIST OF INSPECTION CIRCLE.

No 1 Circle	No 2 Circle.
1. All mines in Baluchistan	1 All mines in Assam
2 All mines in Bihar and Orissa except mines in the Distr mines in of a line Nagpur Trunk R across the District	2 All mines in Bengal.
3. All mines in the North-West Frontier Province.	4 All mines in Bombay.
4. All mines in the Punjab	5 All mines in Burma.
5 All mines in Rajputana	6 All mines in the Central Provinces.
6. All mines in the United Provinces	7. All mines in Madras

Statement No. 2.

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1929.

Certificates granted to holders of English certificates of competency.

(a) FIRST CLASS.

Name.	Number of Indian certificate.	Date of Indian certificate.	Number of English certificate.	Date of English certificate.
Burton, Wallace Victor . . .	345	18th February 1929	1849	31st July 1925
Hearn, Ralph . . .	346	30th April 1929	1862	Ditto
Milne, James Wallace . . .	347	30th September 1929	1415	4th August 1923.
Guha, Sudhir Chandra . . .	348	Ditto . . .	2315	23th January 1929.
Buxton, Lewis Sydney . . .	349	18th December 1929	1733	5th February 1923.
Coats, Robert Thomas . . .	350	Ditto . . .	1521	31st July 1923.

(b) SECOND CLASS.

McDill, Robert	29	30th September 1929.	691	31st December 1925.
Brettell, George	30	Ditto . . .	2028	17th February 1927.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1929—*contd.*

INDIAN CERTIFICATES.

(a) FIRST CLASS.

Name.	No. of certificate	Date of certificate.	REMARKS.
Powell, Joseph Arthur	201	26th April 1929.	
Mindley, Clement Walter Godfrey .	202	30th September 1929.	
Woods, Percy Walham Henry . . .	203	26th April 1929	
Bhattacharya, Prafulla Chandra . .	204	Ditto	

(b) SECOND CLASS

Name.	No of certificate	Date of certificate.	REMARKS.
Brahmachari, Keshil Kumar	429	26th April 1929.	
Dandekar, Parashottam Bhaskar .	449	Ditto.	
Panerji, Hirulal	441	Ditto	
Seetha Krishna Jha	442	Ditto.	
Tewari, Ananga Mohan	443	Ditto	
Ray, Bhakil Poda	444	Ditto.	
Panerjee Santalao	445	Ditto.	
Dutt, Manindra Nath	446	Ditto	
Sinha, Jitendra Nath	447	Ditto.	

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*concl.*

Names of persons to whom colliery surveyors' certificates of competency were granted during the year 1929.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Basu, Kamal Krishna	44	20th February 1930.	
Bhattacharjee, Dakshaja Sankar	45	Ditto.	
Gupta, Sisir Kumar	46	Ditto.	
Banerjee, Bibhuti Bhushan	47	Ditto.	
Sen Gupta, Jiban Kumar	48	Ditto.	
Dutt, Nibaran Chandra	49	Ditto	
Roy, Sudbir Chandra	50	1st April 1930	

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 3.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

New Delhi, the 7th March 1929.

No. M.-1055.—In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Governor General in Council is pleased to make the following regulations, the same having been previously published as required by sub-section (1) of section 31 of the said Act namely—

Regulations for prohibiting the employment of women underground in Mines.

1. These regulations shall have effect from the 1st day of July, 1929.

2. In these regulations—

(1) "exempted mine" means—

(a) coal mines in Bengal, Bihar and Orissa and the Central Provinces;

(b) salt mines in the Punjab; and

(2) "underground workings" means any part of a mine situated beneath the superjacent ground, and includes vertical shafts provided for access to, or for the ventilation of such part; but does not include tunnels made and used only for convenience in disposing of spoil.

3. No woman shall be permitted to enter or remain in the underground workings of any mine other than an exempted mine, unless she is authorised in that behalf in writing by the Chief Inspector.

4. In an exempted mine—

(1) up to and including the 30th day of June, 1930:—

(a) no woman shall be permitted to enter or remain in the underground workings of the mine unless—

(i) she is employed to work therein in accordance with the provisions of sub-clause (b) or

(ii) she is authorised in that behalf in writing by the Chief Inspector, and

(b) the total number of women employed to work in the underground workings of the mine on any day in any year specified in column 1 of the Schedule shall not be a greater percentage of the total number of persons, both women and men, so employed in the mine on that day than the percentage specified against that year, in the case of exempted coal mines, in column 2 and in the case of exempted salt mines, in column 3 of the Schedule; and

(2) on and after the 1st day of July, 1929, no woman shall be permitted to enter or remain in the underground workings of the mine, unless she is authorised in that behalf in writing by the Chief Inspector.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

New Delhi, the 7th March 1929.

SCHEDULE.

Year. 1	Percentage of the total number of persons, both men and women, employed underground.	
	Exempted coal mines. 2	Exempted salt mines 3
1st July 1929 to 30th June 1930	29	40
1st July 1930 to 30th June 1931	28	38
1st July 1931 to 30th June 1932	23	32
1st July 1932 to 30th June 1933	20	28
1st July 1933 to 30th June 1934	17	24
1st July 1934 to 30th June 1935	14	20
1st July 1935 to 30th June 1936	11	18
1st July 1936 to 30th June 1937	8	12
1st July 1937 to 30th June 1938	5	8
1st July 1938 to 30th June 1939	2	4

A. C. McWALTER

Secy. to the G

■ In regulation 44, for the words "in advance to the Chief Inspector in respect thereof" the words and figures "in the manner prescribed in regulation 163" shall be substituted.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No 4—*contd.*

GOVERNMENT OF INDIA

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

Smta, the 13th May 1929.

9 In regulation 60—

(1) For sub-regulation (3) the following shall be substituted, namely —

"(3) A fee of five rupees shall be payable in the manner prescribed in regulation 157 in respect of an application for the grant of a manager's permit."

(11) In sub-regulation (6) the words and figures "on or after the first day of January 1927", shall be omitted.

10. In clause (b) of regulation 58, the words and figures "The provisions of this clause shall not come into force until the first day of October, 1927", shall be omitted.

11. In regulation 71—

(i) In sub-regulation (1) the words and figures "With effect from the first day of January, 1927", shall be omitted.

(ii) In sub-regulation (2) after the word "rupee" the words and figures "payable in the manner prescribed in regulation 153", shall be inserted.

12. To regulation 116 the following proviso shall be added, namely —

"Provided that in the case of any mine an exemption may be given by the Chief Inspector on the ground that, on account of the special character of the mine the prohibition of the use of explosives other than "Permitted Explosives" is not necessary".

13. In regulation 136 for the words and figures "the 1st day of July, 1927 or such later" the word "such" shall be substituted.

14. After regulation 162, the following regulation shall be added, namely:—

"163. The fees payable under regulations 42 (1), 43 (2), 44 and 71 (2) shall be paid

into the Treasury or a branch of the Imperial Bank of India, but such payment

need not be made until the application to which the fee relates has been accepted."

T. RYAN.

Offg. Secy. to the Govt of India

APPENDIX IV—*contd.*

Miscellaneous—*contd.*Statement No. 5.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.*Simla, the 13th May 1929.*

No. M. 1055 (2).—In exercise of the powers conferred by section 20 of the Indian Mines
 following
 ne having
 mely:—

In sub-regulation (I) of regulation 16 of the said Regulations for the words "mines or
 classes of mines" the words "mines or parts of mines or classes thereof" shall be
 substituted.

T. RYAN,

Offg. Secy. to the Govt. of India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 6.

NOTIFICATION.

No. 1025-M. Com.—1st September 1930.—In exercise of the powers conferred by section 4 of the Coal Mines Regulation Act, 1925, the Governor in Council is pleased to make the following Government Notification No. 4183-Com.,

Amendments.

(a) For the word "form" in rule 9 under Chapter III of the rules for coal mines, *substitute* the word "forms".

(b) In the rules for coal mines in Chapter III, after rule 9, *insert* the following as rule 9A namely:—

"9A. At every mine in which women are employed underground, a statement shall be posted every day outside the office of the mine, showing in respect of the previous day, the total number of persons employed underground, the total number of women employed underground and the percentage of the total number of persons employed underground who are women."

(c) For the form of register of work persons under Schedule A of the rules for coal mines *substitute* the following forms:—

Statement 6—concl'd.

Sections 28 and 30 (f) and (k), Indian Mines Act, 1923.

[illegible]

Name of owners..... +

[illegible]

A. CASSELLS,

Secy. to the Gort. of Bengal.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

Statement No. 3.

GOVERNMENT OF MADRAS.
DEVELOPMENT DEPARTMENT.

G. O. No. 1755, 16th October 1929.

Mines—Indian Mines Act, 1923—Rule 20 A—Abstracts of Act, Regulations and Rules—Amendments—Published.

Read—the following papers :—

G. O. No. 457, Development, dated 15th March 1929.

„ No. 1064, Development, dated 25th June 1929.

Order No. 1755, Development, dated 16th October 1929.

The Superintendent, Government Press, is requested to publish the appended notification in English and in the vernaculars in the Fort St. George Gazette. He is also requested to supply the Senior Translator to Government with six copies of the notification.

NOTIFICATION.

AMENDMENTS.

In paragraph 1 of the abstract of the rules (for mines other than coal mines) prescribed by rule 20-A of the said rules—

- (1) At the end of the second sub-paragraph the following shall be inserted, namely :—

“ Every mine which is situated within a municipality without a separate health Officer, or in any area outside a municipality.”

- (2) For the third sub-paragraph, the following sub-paragraph shall be substituted, namely :—

“ The latrine shall be so partitioned off as to secure privacy, and, if a latrine for the use of one sex adjoins a latrine for the use of the other sex, the approaches shall be separate.”

- (3) For the last sub paragraph, the following sub-paragraph shall be substituted, namely :—

“ All latrines in or about a mine shall be kept in a sanitary condition.”

(By order of the Governor in Council)

S. V. RAMAMURTI,
Secretary to Government

